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FARM and FIRESIDE

EVERY OTHER WEEK ~ ~ THE NATIONAL FARM PAPER

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PHOTO BY JOHN KABEL

Getting Ready to Feed the World

Immigrants Who Feel at Home—Page 3

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THE EDITOR'S LETTER

At Coolfont Farm
March 18, 1915

WHEN we moved out into Iowa—before my birth—my father either took with him or drove from Wisconsin a red cow possessed of a powerful personality. She was breachy, unruly, nervous, and all the time given to "holding up her milk."

Father, being gifted with some originality of his own in the matter of names, called her "Shakespeare"—just why, I never had any idea. The name seemed to suit the cow in Father's mind.

Shakespeare was a wonderful milker—not that she gave a very large flow, but it was wonderfully rich, like Jersey milk, though she was a scrub—and she would give a good mess of milk straight through to another freshening if allowed to do so. She would rustle a living anywhere, and didn't care whose fence she overpassed in rustling it. Cows were scarce, however, and Shakespeare was a mighty useful member of the family. So she was kept until her crumpled horns grew inward, touched her forehead, and had to be sawed off.

How My Wrists Did Ache

She had short, leathery teats, and was an abominably hard milker. Her heifer calf, "Cherry," was the family stand-by when I came of age to help with the milking. She had the fire-red color, the nervous temperament, the general all-round vigor, the weakness for holding up her milk, the rich milk, the short teats, the unruliness, and the general milking qualities of Shakespeare. She had the same crumpled horns, and was a very hard milker. My wrists ache now, almost, at the memory of the struggle with those rear teats when Cherry's udder was distended with milk in June.

Cherry became the dam and granddam of cows in the same herd. "Reddy" was the third-generation result best remembered by me. She also was a hard milker.

In fact, I never knew a cow of Shakespeare's progeny which was anything but a hard milker, and never knew one which was not a good cow, if her high temper and leather teats were overlooked.

And yet I would not keep such a cow now.

On the other hand, there was placed in the same shed with old Shakespeare another cow whose name I have forgotten who brought forth a line-backed heifer named "Liney."

They Were All Heavy Milkers

Liney became the progenitor of a race of cows kept on the same farm with the Shakespeare strain. They were big cows, and when fresh gave immense flows of milk. They did not keep it up, however, as well as the Shakespeare cows. They had long, thin-skinned teats, and it was a luxury to milk one of them after struggling with Cherry, Reddy, or any other Shakespeare. Their milk was thin but abundant.

These two dams gave us two distinct types of cows for many years. Before I finally lost "contact" with the herd I had milked several generations of them. We never had anything but hard milkers in one strain, and had nothing but easy milkers in the other. The temperaments were quite as persistently transmitted as the other qualities.

I have often wondered at this. Why did not the paternal side of the house affect these qualities more appreciably?

We had no pure-bred bulls in the country until a few years before my observations ceased; and they were Shorthorns when they finally came in. I think the pure-bred bulls affected the matter under discussion more than the scrubs did, but even at that the Shakespeare grade Shorthorns milked hard and held up their milk if anything went wrong, while the Liney cows were easy milkers and of quiet stolid disposition.

What Another Editor Said

Lots of valuable experiences of this sort are locked up in the breasts of readers who might tell us about them if they would. Whether or not they will I haven't the slightest idea. An editor never can tell. Sometimes his readers rush to the front to help, and again they sit back and refuse, like Shakespeare's daughters, to give down.

I have written about this thing because of an item I noticed in one of the best dairy papers in the United States. A subscriber asked what to do with a Holstein cow which was originally a hard milker but whose teats now leak milk on account of an operation to cure her defect.

The editor advised that she be kept as a breeding animal, but one of his readers wrote saying that in his opinion the editor's advice was bad since a hard milker would become the dam of hard milkers. He stated that he is milking thirty cows not one of which is a hard milker, and that if he should get one she would be sold for beef.

A Question for You to Answer

Is the quality of being a hard milker hereditary?

Undoubtedly it is, since all natural qualities are hereditary. Not always, perhaps. The form of the udder is inherited, like other qualities, from both sire and dam.

I suspect that among the older subscribers to FARM AND FIRESIDE are thousands who could give valuable experience in the inheritance of this and other traits. They have kept animals and their progeny generation after generation, have handled them, fed them, used them, become intimately acquainted with them. They could "an they would" tell the breeding experts things the latter would like to know. I should like to hear from them.

This is an experience meeting. I am simply beginning it. Most of the best work in even this age of science is based on experience. The work of science is to correct the mistakes of experience, and start us off on better lines when necessary. A good work, too.

Herbert Quick

ALWAYS IN GOOD HUMOR

MORE THAN ONE WORD

It was recess. Two small boys were having a somewhat rough struggle, and when one received an unexpected hard blow he exclaimed:

"If you don't look out you'll end up in a place that begins with H and ends with L!"

A passing teacher, hearing the remark, scolded the boy severely for what he had said.

"Well," replied the boy after a pause, "I don't know what you're talking about. I only meant *hospital*."

TEACHER—Now, Willie, tell me how many bones you have in your body.

WILLIE—Two hundred and eight.

TEACHER—Wrong. You have but two hundred and seven.

WILLIE—Yes, but I swallowed a fish bone this morning at breakfast.

TEACHER—What was buried with the ancient Egyptian warriors?

PUPIL—Their arms.

TEACHER—What else?

PUPIL—Their legs, I suppose.

It was the first time that four-year-old Willie had ever seen a snake; and, as it writhed aud squirmed along, he rau into the house to tell of his discovery. "Oh, Mother," he exclaimed, "come here quick! Here's a tail wagging without any dog!"

OF TWO EVILS CHOOSE

"Of two alternatives—go between," sagely observed Robert Edeson, appearing in "The Offenders." Once on the road, we were going through an asylum.

"We got some sad cases," said the attendant, and opened the door to the first cell. Inside was a man sitting on a stool and gazing vacantly at the wall.

"Sad story," said the attendant, "he was in love with a girl, but she married another man and he lost his reason from grief."

We stole out softly and proceeded to the next inmate. This cell was thickly padded, and the man within was stark, staring mad.

"Who is this?" we inquired.

"This," replied the attendant—"this is the other man."

ASKED FOR INFORMATION

The minister visited the Sunday-school class one Sunday afternoon just after Christmas, and unrolled a beautifully colored chart depicting the Flight into Egypt. "And," said he, using the pointer, "the angel said unto Joseph, 'Take ye the mother and Child and flee into Egypt.' Isn't that beautiful, children?" asked the minister. "Here you see Joseph, the angel, the mother, and the Child. In the background is Egypt."

Before he could go further a small voice was heard inquiringly, "Where's the flea?"

"This bell," said a well-meaning sexton, when showing the belfry of au interesting village church to a party of visitors, "is rung ouly in case of a visit from the bishop of the diocese, a fire, or any other such calamity."

THE COURAGE OF HER CONVICTIONS

While waiting for the speaker at a public meetiug a pale little man in the audience seemed very nervous. He glanced over his shoulder from time to time and shifted about in his seat. At last he arose and demanded in a high, penetrating voice: "Is there a Christian Scientist in this room?"

A woman at the other side of the hall got up and said: "I am a Christian Scientist."

"Well, then, madam," requested the little man, "would you mind changing seats with me? I'm sitting in a draft."

THE CLOCK'S TWO HANDS

"Come, hurry up!" said the second hand of a clock to the minute hand. "You'll never get around in time if you don't. See how fast I'm going," continued the fussy little monitor as it fretted round on its pivot.

"Come, hurry up!" said the minute hand to the hour hand, utterly oblivious of being addressed by the second hand. "If you don't be quick you'll never be in at the stroke of one."

"Well, that's just what our young friend there has been saying to you."

At this point the clock pealed forth the hour as the hour hand continued:

"You see we're in time—not one of us behind. You take my advice—do your own work in your own way, and leave others alone."

Moral: Mind your owu business.

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Immigrants Who Feel at Home

The Story of a Norwegian, a Pole, an Englishman, and a Swiss—Now American Farmers

By Frank G. Moorhead

ONCE the present war is at an end, will the thousands upon thousands of immigrants who will leave blood-stained Europe for the United States make good?

The best answer is found in the records of others who have come over from the Old World to build a home and an empire in the New.

Twenty-five years ago John Steen, then a lad of fifteen, quit Norway for America. He was penniless, alone, unacquainted in this country. His capital was a strong physique and an unfailing supply of hope.

Young Steen came to North Dakota and secured work as a farm hand. He broke many an acre of prairie sod before he was eighteen years of age, getting what little schooling he could in winter time. In 1898, still a mere youth, he filed on a homestead in Pierce County. That entry was the corner stone of the present fine farm consisting of 680 acres, all in one block, 500 acres in a high state of cultivation. A grain elevator, with a capacity of 16,000 bushels, which can be loaded at the rate of 1,000 bushels an hour, is one of the prominent buildings on the farm. The fences around the entire place, as well as the Steen home, barn, and outbuildings, are resplendent in a snowy coat of white. Everything is spick and span.

It was peculiarly appropriate that it was the Steen homestead which was selected by the state commission, headed by Governor Hanna, as the model farm to be exhibited at the centennial held in Norway last summer.

Much of the prosperity of the fertile Middle West is due to the farmers who came over in the steerage, and thousands of the farmer-soldiers of to-day are sure to do this once the war is over.

But the success of the immigrant farmer is not confined to one State or one people alone. There is the case of the Polish immigrant who, starting out with a wife and six children and only $11 in cash, nine years ago a Chicago ironworker, now owns an 80-acre farm near Iron River, Wisconsin, and is counted prosperous. Certainly he is happy, and Wisconsin is richer for his coming.

There Are Thousands Like These

Charles Chramosta worked hard at his trade in a Chicago foundry. With his large family, however, life held little cheer for any of them. Sixteen years he toiled in the foundry. Then, by some unrelated circumstances, he was induced to leave the city for the country and to settle far up in northern Wisconsin.

A real-estate agent was responsible for his choice of a farm near Iron River, and on the 80-acre tract he began life anew. Without funds, he had to take the farm on credit. He went to work for wages as opportunity offered, finding time in between to work his own land. The wife and older children helped on the land, and by and by the family was well started on the road to prosperity.

On the Chramosta farm to-day are horses, cattle, hogs, chickens, geese, and other live stock. There are wheat, oats, corn, beans, peas, apples, mushrooms, pumpkins, squash, onions, artichokes, turnips, peppers, cabbage, rhubarb, speltz, mustard, beets, flax, clover, timothy, blue grass, hops, tomatoes, celery, caraway, wormwood, sage, millet, firebush, and June grass. Moreover, the family has increased from six to ten children, and the brisk Northern climate agrees with them as it does with the father and mother.

Likewise there is the case of Payne Sargisson who, coming to the United States from England with but moderate means thirty years ago, bought 80 acres of land in Sac County, Iowa, after working as a farm hand for a time to supplement with his earnings the modest sum of money he had with him. He planted half his farm to clover, and the other half to corn, raised a good crop the first year and fed it all to cattle. Later, with the money made from the cattle, he bought 320 acres and conducted that in the same manner. Shortly afterward he sold his possessions in Sac County and moved south of Sioux City, and ever since has been raising clover, alfalfa, and corn, feeding it to cattle and hogs.

Charles Chramosta, for sixteen years a laborer in a Chicago foundry, now a Wisconsin farmer. He had but $11 when he brought his wife and six children to this country

As fast as he made money he invested it in more land, until to-day he owns 73,370 acres and leases 12,540 acres more. He has never sold an acre of land since moving to his present location.

Nor would the most meager list of alien-born successes be complete without mention of Arnold Martin, the Swiss *émigré*, whose intensive farming success has been so notable that the Department of Agriculture issued a special bulletin describing him and his work. It is eighteen years since Martin first saw the Statue of Liberty from the steerage. After three years of arduous toil he had saved $72. He bought a tract of 20 acres near Pawnee City, Nebraska, paying $12.50 an acre for it. To-day he makes as much money from these same 20 acres as many of his neighbors make from 640 acres.

This is the farm of John Steen, Norwegian, now at home in North Dakota. A model of this farm was on exhibition at the recent Centennial Exposition held in Norway

His persistent, patient, intensive endeavors have not only won him success but inspired others, alien-born and native-born alike, to emulate his example.

The stories of John Steen, Charles Chramosta, Payne Sargisson, and Arnold Martin are not exceptional, although they are striking. The men who came over in the steerage came to a land of vast opportunity, and they made the best of it. Their brothers who will follow them, once the present war is at an end, may be confidently relied upon to do likewise.

Every European war and great foreign crisis has been followed by vastly increased immigration to the United States. Thus in the decade immediately after the Franco-Prussian war the number of French immigrants increased from 35,984 to 72,206. In the decade immediately following the Prussian upheaval and the formation of the new German empire, the number of German immigrants increased from 718,182 to 1,452,970. There is ample precedent for the prediction that Belgium, France, Austria, Germany, Russia, and England—particularly the first three—will send vast numbers of homeless, jobless immigrants to this country when the war ends.

It is a reasonable conclusion that this tidal wave of immigration will be diverted landward, the glut of the cities being already pronounced.

The success of such men as John Steen, Charles Chramosta, Payne Sargisson, and Arnold Martin will make the welcome for the strangers all the more hearty

Take Wisconsin, Minnesota, and North Dakota, three typically agricultural States. The last census showed a total of 188,357 farms out of 407,624 in the three States (almost one half) owned, operated, or managed by foreign-born whites.

Of all the foreigners in these three States none are more numerous or more prosperous than the Norwegians. More than one half of all the male Norwegians in North Dakota are farmers; they own nearly 8,000,000 acres of land, valued for taxation at $275,000,000. Thirty-seven per cent of the first generation of Norwegian males own their own farms, showing that the immigrant not only sticks to the land but that the land sticks to him.

Most of Them Own Their Homes

In Minnesota out of a total Norwegian population of 500,000, one tenth are farmers, owning farm property aggregating 9,500,000 acres, seventy-one per cent of which is under cultivation. In the last year these 50,000 Norwegian farmers produced $75,000,000 worth of farm crops, many of them coming to this land of promise absolutely penniless.

That the immigrant is here in large numbers is shown by the last census report, which places the entire number of foreign-born now in the United States at 9,865,479. The percentage from the different nations is fairly well shown by the case of a Middle-Western agricultural State, Missouri, with 228,896 foreign-born population distributed as follows: Austria, 16,219; Belgium, 1,000; Canada, 7,961; Denmark, 1,729; England, 13,751; France, 2,792; Germany, 88,224; Greece, 2,890; Holland, 988; Hungary, 11,531; Ireland, 23,290; Italy, 12,984; Mexico, 1,412; Roumania, 1,522; Russia, 21,401; Scotland, 3,651; Sweden, 5,654; Switzerland, 6,141; Turkey, 2,084; Wales, 1,219; all others, 2,553.

Here in the United States a greater proportion of foreign-born farmers own their farm homes than do native-born farmers. At the time of the last census 81 out of every 100 immigrant farmers owned their places, while only 66 out of every 100 native-born farmers owned theirs.

When the men who are now fighting in Europe lay down their arms, it will be natural for them, gathering the remnant of their families about them, to take the pittance left from their service pay and turn their faces westward to the land of promise, where wars are few, where compulsory military service is unknown, and every man is as good as his neighbor, and has a chance, to get ahead in the world.

EW

Back to the Land

By Herbert Quick

NO SUBJECT is more interesting to city people than "Back to the Land." "A little chicken farm," or "an orchard and truck farm," "redeeming an abandoned farm," "getting back to Nature"—all these expressions ring in the ears of the people who breathe soot and tramp pavements, and a census of those in New York or Chicago who have among their castles in the air a favorite one relating to retirement to a farm would include a surprisingly large proportion of those who have the imagination to consider at all a change in living conditions.

All these should read a bulletin written by Dr. G. F. Warren of the New York College of Agriculture at Ithaca. It is entitled, "Some Suggestions for City Persons Who Desire to Farm."

The back-to-the-lander may be sadder after reading it, but he should be wiser.

Farms in which are invested an average of $9,006 give their owners as wages for working them, after paying the business expenses, an income of $1,155. This includes rent of a house worth $10 to $20 a month, without a bathroom, fuel, potatoes, milk, and some vegetables and eggs. This is a sample township in New York—a fair sample, it appears. An investment of $5,000 means a small business in which the family must do its own work—no landed gentry proposition.

Farming is slow business, in which a man must work for his sons and grandsons, or he isn't getting startling returns.

Only half the food is furnished by the farm, and the other half costs fully as much as it would in a city.

The women and children must work if the farm is to make the family a living. It is a home enterprise. It is a complex business and has to be learned.

Instinctive farming will do in air castles but not in actual grips with the soil.

To redeem a poor soil may be possible, but it takes a mighty good farmer to do it, and the good soils cost a lot of money.

The amateur may think he can beat the game as played by the professionals, but he should remember that New York farmers have tried about everything, and their present methods have survived.

The newcomer should raise crops before rebuilding everything, and he should learn of the neighbors.

A college course in agriculture is of small use, usually, to a man who has never worked on a farm. He hasn't the background.

Farming is especially risky for middle-aged people who are "making the break." It is a young man's game.

The small farm first taken as a home, and gradually developed commercially, gives the beginner a chance to ease himself into the business while earning wages.

Corporation farming is a very doubtful proposition, and the sort in which units are sold to city people to be developed is especially hazardous to the investor.

Newspapers and magazines tell the things which are interesting about city people who have gone back to the land. Such things exist. We may have published some of them.

We might have published stories of Cobb's baseball, too, but we don't believe the average man can become a Cobb, and we should be sorry to have any reader risk his living on the attempt.

To those who dream of the little ranch among the trees, let us commend Doctor Warren's bulletin. It is not all "Don't," but it is sane and very, very interesting.

HIGH grain prices will boost egg prices. How? Suburban farmers who buy chicken feed will feed less or keep fewer fowls. This will reduce the egg supply.

E. L. CURRIER of Montana found after examining fifty farms that the best paying ones were stock farms with at least four ways of making money, while the poorest paying were grain farms with one or two sources of income. The best twenty-five of these made an average labor income of $1,365 each, while the twenty-five poorest made an average of only $361.

'Sparagus—From the Beginning

By Mrs. F. A. Nisewanger

FOUR questions need to be considered in starting an asparagus business. Then, if you need a few rigid rules in making the bed, all is clear sailing and the quarters, dimes, and nickels will roll in steadily for six weeks or more every spring.

Here are the questions: Do you want to sow seed in a hotbed and grow your own plants, or buy year-old roots at $1.50 a thousand and wait until the third year for returns? Or do you want to buy two-year-old roots at $3.50 a thousand, cut some stalks for home use the following spring and cut freely for market the second? Or do you want to buy three-year-old roots at $7.50 a thousand and sell asparagus the next spring?

Two years ago when I was new at the business, and cautious, $7.50 a thousand sounded rather big, so I chose the middle course—a thousand two-year-old plants at $3.50. The first season produced only a little more than our family of six could use. The second year I sold $24.60 worth, and the bed grew better and more prolific. I am planning a new bed now, and $7.50 plants will go into it without any hesitation, for experience has taught that the returns will justify the investment, also that a two-years wait for $3.50 plants to produce salable stalks is poor business.

When the bed is used for asparagus alone it needs some cultivation to prevent crusts forming. A crust retards the growth of the tender heads of asparagus, and produces crooked stalks if they must bend to come up through a crack in following the line of least resistance.

Do the preparatory work well and your asparagus bed will yield profitable crops for fifteen years. So it pays to be thorough. The one thing to remember and act upon is this: asparagus plants are deep feeders. Their bed must be fertile, well worked for a good depth, and must be kept in good condition by a yearly top-dressing.

If new ground is to be used, or ground that is not in good mechanical condition, plow it deep and work in a heavy coat of well-rotted manure in the fall.

If the ground is in good shape you need not touch it until a little before the time to put the plants in—the middle of May here in Iowa. Then plow rows three feet apart and as deep as possible. With a spade deepen these furrows into trenches two feet deep. Fill in to the depth of a foot with well-rotted manure. Cover with six inches of soil and set the plants eighteen inches apart. Then put dirt over the roots, press it down firmly, and gradually fill in the furrows as the stalks grow.

I advertised in the two papers of our town of 2,500 people, and telephone orders began to come in thick and fast—sometimes more than I could fill—for quite a market had already started from the sale of 30 cents' worth (four dozen stalks) to a neighbor. This neighbor's sister ordered 60 cents' worth when she saw it, and told an acquaintance of hers, who told someone else, who told someone else, and so on.

If I found myself with an excess on hand, one of the two fruit stores gladly took it at 5 cents a dozen stalks, and they sold it to those who did not read want ads.

For three weeks my price held at two dozen stalks for 15 cents, then dropped to 5 cents a dozen for the remainder of the season, and when the keen edge of their appetites was off people bought at this price for canning for winter's use.

Almost everyone likes asparagus. Coming when it does, when there are no fresh vegetables except those shipped in, it just fills the bill and seldom loses favor. In a normal season plump stalks can be ready for market as early as the middle of April in the Central States, and will continue to be produced for a month or more. Warmth and moisture are needed. If the weather is too dry and hot the crop will suffer. To lengthen the growing season keep all the stalks well cut as long as possible.

After frost in the fall mow the tops close to the ground and put a good dressing of manure over the entire bed.

Your Will and Mine

A Way to Save Money While We Live a Good, Long Life

By J. L. Sherard

IT IS like starting a balking horse to persuade the average man to go to his lawyer for the purpose of signing what he considers to be an indirect death warrant—his will. Our imagination fills us with fear when death is considered, and so follows the common mistaken idea that he who makes out his will is thereby shortening his life many months.

As a matter of practical business, however, it is folly not to have a will made out.

The rapid forward stride in farming in the last few years has contributed a great deal to the productive wealth of the country, but most of us have made no substantial progress in the easy and simple settlement of our estates after the accumulation of a life of careful saving.

There is still as much unnecessary waste as there ever was.

The Will That Doesn't Save

In many cases the making of a will might not accomplish any actual saving of money when, for instance, the landowner dies leaving a wife and children who are over twenty-one years of age. The parties in interest in such case could agree on a plan of distribution among themselves by giving mutual deeds, or they could all join in a deed to one or more of their number or to a third party, as suited their pleasure, all of them being of legal age and capable of conveying their property without a resort to court proceedings.

But in most cases of the estates of those who die without a will there are minor children who have an undivided interest in land. If it becomes advisable or necessary to sell, for reinvestment, for division or for the payment of debts, it cannot be done except by bringing an action in court where the minors can only appear by some competent and suitable person appointed by the court to represent their interests, in legal phraseology termed a guardian *ad litem*. Attorneys' fees, court costs, advertising, and so forth, always amount to a considerable sum, and really mean just so much preventable waste.

As an example of this kind of waste take the case of A, who dies without a will, leaving a farm valued at $5,000. A's widow finds it impracticable to run the farm herself with her young children to rear and educate. Whether the facts of her situation justify the conclusion or not, she becomes dissatisfied and decides that it will be best to sell the place and reinvest the proceeds in property of a more productive character. She hastens to employ an attorney who brings an action for her.

His fee, let us say, is $200.

The court costs, including the commission of the equity court officer who executes the deed, advertising, and all other costs and fees, will run the total to $275.

Now suppose A, frugal and foresighted man that he seemed to be, had gone to a lawyer and had his will drawn. The fee for such service would have been about $25 or less, depending upon the simplicity of the will. A little foresight on his part would have saved his estate $250, besides relieving his widow of the inconvenience and annoyance incident to a suit in court.

A's failure to make his will helped the lawyer, a class against whom he probably had an inherited prejudice, by giving him a tenfold larger fee; and it hurt those whom the whole purpose and desire of his life was to protect—his own family.

State Laws Vary

The cases in which waste or positive injustice may be committed are relatively numerous. The distribution of the estates of those who die without wills is fixed by statute in all the States, but the laws of different States vary as a matter of course. Generally speaking, however, they are the same in principle, differing merely in the degree or method of distribution.

Take the case of B, a landowner, who dies without a will, leaving a widow, brothers, or sisters but no children. His good wife, who may have been his mainstay in his struggle to pay for his farm, and who certainly ought to inherit all his property, is left with only one half of it (in many States at least), the remainder going under the law to the brothers or sisters of the deceased.

It may not be fair, but it's the law.

A will would have prevented the injustice.

Not infrequently members of a family become estranged over the distribution of property when a will would have made a breach impossible.

The Farmer Who Dies

Let us suppose that C, also the owner of a farm, dies without a will, leaving a widow and children, some of whom are over and some under twenty-one years of age. It is manifestly to the best interests of all the parties that the farm be continued in operation as managed by the father, who knew his business and made money.

C's oldest boy is in the wild-oats stage of his life, and above all things he wants to get his share of the estate for his own use and enjoyment.

He turns a deaf ear to the pleadings of his mother.

He employs a lawyer and brings an action for partition and sale.

The right of partition being one that a court of equity cannot refuse, the land is forced on the block and sold at public outcry, the fees and costs first being deducted, by agreement if not by statutory requirements, from the proceeds before distribution is made. The result is waste in more ways than one, forcing the breaking up of a happy and prosperous home and the estrangement of one member of the family group from the others. A guardian, moreover, has to be appointed, a surety bond must be provided from year to year, and so the costs are continued almost *ad infinitum*.

Then, too, there are many special cases where a will would insure a fairer distribution of an estate on account of peculiar circumstances. It is a common thing for advancements to be made to some of the older children, either to give them a start in life or to pay the price of their folly or business blunders. As a matter of justice to the younger children, provision ought to be made to protect their rights. All goes well if the father lives out his life expectancy, but in the event of an untimely death, without a will, some of the heirs cannot share equally in the distribution of the estate because a part of it has been dissipated to the help of some and to the hurt of others.

In those sad cases, where for instance a child of unsound mind or a child incapable of earning a livelihood is involved, the duty of safeguarding the future makes a will well-nigh imperative.

A will, as everyone knows, is a disposition of property, real or personal, to take effect after the death of the owner. It can be changed or modified at any time to suit changing conditions, or it may be revoked entirely. In general, the old common-law rule has been confirmed by statute by which the validity of a will as to personal property is determined by the maker's place of residence at the time of his death, and in the case of real property or real estate by the laws of the State in which the land is situated.

Just Common Sense

A will is a simple instrument.

Unless there are special trusts to be provided or complications that require a thorough knowledge of the law, any intelligent farmer can write his own will. But out of an abundance of caution, and in order to avoid ambiguity and the danger of a contest, it is the part of wisdom to consult a competent and trustworthy lawyer who will draw the will for a moderate fee.

If every one of us in the country, particularly if we own land, should feel impelled by a sense of business foresight to go at once to our lawyer and have our will executed, it would mean the ultimate saving of millions of dollars in useless waste, while it would work a corresponding loss to the men of the law in fees.

And, what is more to be desired, it would mean an end of many errors of judgment, of needless anxiety and suffering, and the beginning of a larger prosperity and of happier homes on the farm.

EW

A four-year-old Mountain Rose peach tree. Here the development has been normal. The man in the picture is six feet tall

Why We Prune Our Peach Trees

By A. T. Henry

Mr. A. T. Henry, the writer of this article, with his father, W. A. Henry, famous, among other things, as the author of "Feeds and Feeding," is managing a Connecticut fruit farm. The farm is known as "Blue Hills Farm," and the firm as W. A. Henry & Son. The photographs shown on this page were all taken on the Henry farm

Big yields of fruit are the result of proper pruning. The open center allows all fruit to get the sunshine it needs

IN ADDITION to heavy crops of fruit, our trees have to withstand terrible ice storms. On December 10, 1914, our trees were encased in ice from one to three inches thick. They were bent to the ground, and some limbs split off. Each tree must have supported over 1,000 pounds of ice, as a twig 16 inches long weighed 2½ pounds, and the ice melted to over a quart of water.

Ice storms occur nearly every winter, and so we have to prune our trees to hold up heavy crops of fruit in summer and ice in winter.

The life of a peach tree may be divided into three periods, as follows:

First, the growing stage—up to four years.

Second, the heaviest bearing stage—from four to ten years. This period generally includes the most profitable years of a tree's life.

Third, declining period—after ten years of age.

The peach grower is known by his trees. The inexperienced but careful man has his trees "look right" whether he gets profitable crops or not. The slovenly, poor orchardist does not care how they look or are cared for, and is surprised that they "don't do as well as they should," while the careful, experienced, and practical man prunes to get the largest yields and yet not overtax the tree.

It has been our practice to plant a medium-sized peach tree. The nurserymen grade them as "one-half," I believe. They are about three feet high when purchased.

These are planted in the ordinary way, and are then cut off at a height not to exceed 14 inches from the ground. On a thrifty, medium-sized tree there are plenty of buds below this to grow and form the framework of the tree.

"Pruning" With a Hoe

In case only one bud starts, the dead stub above the bud is carefully pruned back to where the bud starts, and next spring the branch is cut back to 12 or 14 inches, this forming the trunk of the tree.

Generally, from three to eight good strong shoots put out. Now is the time to do a little "pruning" with the hoe and a pail of fertilizer or some stable manure.

We must first grow wood before we can prune it, and our aim is to produce a strong growth the first summer. This is accomplished by frequent cultivation and application of a nitrogenous manure of some sort.

The most important pruning the tree ever receives is the first. This may be done in midsummer the year the tree is set, or early the following spring. This pruning determines the height and shape of the tree, also the number of framework branches.

Our ideal peach tree is headed from 8 to 12 inches from the ground, and is made up of three main framework branches, equally spaced apart, and no two forming a crotch. This is very important, for if a weak crotch is allowed to form, the tree is nearly sure to split with the weight of fruit.

Practically as good a tree can be formed with four main framework branches. All branches in excess of this number are removed close to the trunk of the tree, and the stub above the highest branch is carefully trimmed back so it will heal rapidly.

After selecting the branches for our framework, they are pruned back to a strong outer twig, making a close, smooth cut.

We try to have these twigs about the same height from the ground, as these are the future main branches. Any inner twigs are cut out the first spring. A severe pruning the spring after setting should produce a strong wood growth the following summer; provided, of course, that the tree is well cultivated and fertilized.

One Pruning in Place of Two

Sometimes we summer-prune a young peach orchard. This should be done as the tree is nearly finishing its growth. If done too early a number of brushy sprouts put out at the end of the branches, which is undesirable; and if done too late no good is accomplished. If done at just the right time it takes the place of the next spring's pruning. The advantages are that the limbs are thickened and the cuts heal over more rapidly. Summer pruning also tends to the formation of small fruiting branches.

This is a well-pruned four-year-old Elberta peach tree. Note how it has been forced to open spreading by the work done on it

In this summer pruning, or in the pruning the following spring when the tree is two years old, we again aim to force the tree outward.

The third year we try to produce a strong wood growth by fertilization and cultivation, and the pruning the following spring consists of a lighter cutting back of the end shoots and thinning out any of the limbs which crowd each other. We are again careful to leave all the small minor shoots which were left the previous spring. If any show a tendency to form large limbs they are cut out.

In the third year we have obtained up to a bushel of fruit per tree, mainly on these small branches. After one or two years bearing they die and are cut out.

We should now have a strong, thrifty four-year-old tree which has already produced some fruit, enough to show if the variety is suitable and profitable.

The fourth spring the ends of the branches are cut back one third to one half their growth, sometimes to an outside and sometimes to an inner twig, depending upon the shape of the top at that point, in an effort to maintain an even, well-balanced top, not crowded, and with no vacant spaces.

We have now passed the first period. Our tree is ready for business.

The pruning from the fourth to the tenth year consists of an annual topping back, with an occasional removing of a large limb that is crowding. If any year the buds are killed, the tree receives a very severe pruning, going back into wood formed three and four years previously. This tends to keep the tree lower, and also develops young wood. Peach buds are formed a year ahead, so care must be taken to have an ample supply of young wood each year for next year's crop.

These six years are generally the most productive in the life of the tree. Some growers say it does not pay to care for an orchard after this period, as the cost of production increases so rapidly when the orchard is old, on account of missing trees and the increased cost of picking when the fruit is grown on high branches.

Peaches Cost $200 an Acre

However, with proper care in fertilizing, cultivating, and pruning, the trees may still continue to produce profitable crops. The orchard is already established, and every year added to its life decreases the "overhead charges," one of which is growing the young orchard.

A man who has brought into production over 300 acres of peaches told me that it cost him $200 to bring an acre of peaches into bearing. This includes many charges which most people do not include, but which they pay, and then wonder why there is not more profit.

If it costs $200 to bring an acre of peach trees to bearing, and it produces $1,000 worth of fruit in its lifetime, there is a charge of 20 per cent against each basket, which must be figured in before any profit comes. This of course is aside from the immediate costs of production.

Old trees are generally "high-headed," greatly increasing the cost of spraying and picking. Careful pruning should keep them reasonably low. We always endeavor to grow a strong, stocky young tree. This will give us a long-lived and low-headed old tree.

To obtain young bearing wood closer to the ground, we frequently cut off some of the larger limbs, leaving them as stubs from two to four feet long. This looks severe, but these dead-looking stubs send out new young shoots, and soon we have low, young thrifty wood where formerly it was high and partly dead.

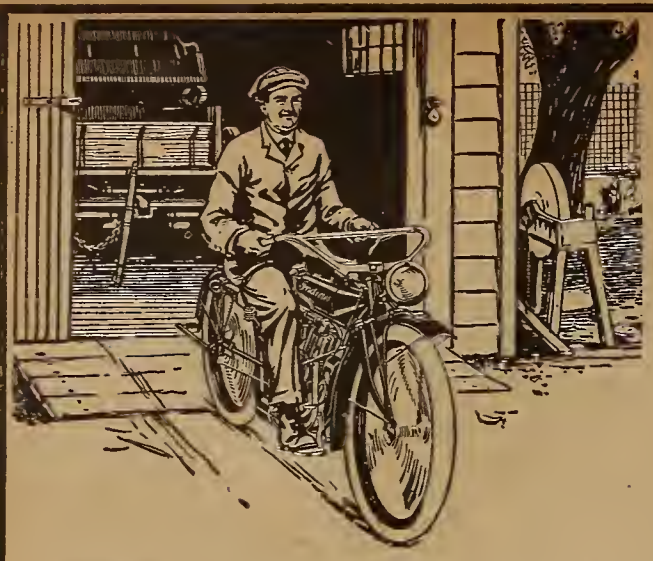
This severe cutting back can be carried on yearly, and the trees kept in a vigorous condition for several years, if the "yellows" does not take them. If any tree shows premature ripening of fruit, or the characteristic thin, wiry and bushy sprouts, it must be removed at once, as it probably has the yellows.

Each tree like this one supported over 1,000 pounds of ice

Where trees were improperly pruned they broke, as did this one

An open center, yet no weak crotches. This tree stood the test

E W



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Farm Notes

Auto Styles for 1915

By Gordon L. Horton

THE Cleveland Automobile Show held in January made public many surprises in the way of added comforts and accessibility of the different units. Few cars were shown not having a self-starter. Only a short time ago this important accessory was looked upon as a doubtful addition, and about the only starter at that time to attract the public was of the compressed-air type. Now the smallest runabout is not complete without its electric self-starter.

The reduction of working parts, heavier wire connections, and the placement of starter and generator so they will in no way interfere with the disassembling of the motor are points that have been worked out to perfection in this year's models. Also there is a reduction in weight and an increase in power in the late type of starters. Everything for the coming summer will be stream line, with emphasis on the stream. In fact, on some models it is hard to determine at a glance the position of the dash or the exact length of the motor bonnet proper.

The stream-line type has many advantages. It is graceful, wind resistance is eliminated, and it is much easier to keep clean, to say nothing of the protection afforded for winter driving. Wheel bases remain about the same, perhaps lengthened a little. On an average, bodies seem to be hung lower but not underslung. Upholstering is in any color or material desired, especially green patent, dull gray, brown, and black leather. Corduroys and tapestries are also used.

More "Sixes" This Year

Fuel tanks in the cowl or gravity feed systems with a tank in the rear seem to have the preference over the under-the-front-seat style. With the gas tank in the cowl you are sure of getting a supply of gasoline to the carburetor no matter how steep a hill or how low the gas. But should the gasoline leak onto the exhaust it would cause a fire hard to extinguish. Of course the chance of this is very slight.

With the new law requiring the dimming of the headlights while driving in the cities, most manufacturers have equipped their headlights with a dimming arrangement to soften the headlight's glare. This is controlled from the switch on instrument board.

There seems to be a decided increase in sixes, especially the light six cast *en bloc*. Several prominent manufacturers have ventured forth with an eight-cylinder model. While the eight cylinders are sure to deliver a steady flow of power, next in evenness to the electric motor, there is certainly a great increase in moving parts. Unit power plant (that is, motor and transmission enclosed in one case) and full-floating axle are here to stay and stand for all that is best in motor-car construction. Demountable rims with all tires non-skid are prominent.

He's a Big Man

By Herbert Quick

ALL over the nation the county agents are finding in the schools an unexpected demand for their services. The original idea was for the county agent to spend his time with the farmers working at practical farm problems, but it has been found that the easiest way to get to the older people is very often found running through the schoolhouse. The Wisconsin system seems to be the most effective yet found to make the county agent (or "representative," as he is called in Wisconsin) the most influential educator in the county.

Several counties in Wisconsin have schools for the training of rural teachers. It is safe to say that these will increase in number. The teachers preparing for rural-school work are required to study agriculture so as to be prepared to teach it intelligently. It was so arranged that the county agent, a skilled, practical farmer, should give this instruction.

The "short course" at the state colleges is a well-known institution in most States, and the successful reading farmers are getting more and more good out of these courses year by year; but they are out of the reach of the majority. It occurred to the Wisconsin people that with a trained man at work in the county there was no reason why a county short course should not be given; and it was given in 1914 in the counties of Eau Claire, Langlade, Oneida, Price, and Taylor. The county agent in each county was the head of this short course, and the work is already a success.

The boys attending these courses are seeing new and interesting and profitable things in farming, and more than one farm home is being transformed under their influence.

THE sap of the nipa palm in the Philippine Islands furnishes the cheapest raw material in the world for making alcohol. The Philippines have sufficient nipa-palm area to yield 50,000,000 gallons of alcohol a year.

THE United States ordinarily imports over a million tons of potash salts a year, but since the war, imports have been only about a third of the usual amount. It has lately been coming in more concentrated form, which partly makes up for the reduced tonnage.

AUSTRIAN bakers have for some months been compelled by law to use at least 30 per cent of potato meal in making their bread. This action has led our own Government to hunt around for wheat substitutes. The Bureau of Chemistry reports that the war bread has an agreeable flavor but is coarse in texture. Eighteen other wheat-flour substitutes are being tried.

Portable Fence Made of Panels

THE portable panel fence shown in the sketch was originally designed by the Illinois Station. It is good for hog lots and, if the panels are covered with wire netting, will also keep chickens in or out if their wings are clipped.

Take four fence boards, each 16 feet long and 6 inches wide. Space them 8 inches at the top, 5 inches in the middle, and 3 inches at the bottom. Nail to three vertical boards 40 inches long. Have the ends of the 16-foot boards extend 6 inches beyond the outside vertical ones.

To make the triangular braces, take two boards 4 feet long and nail them together lightly, just as if you were starting a sawbuck. Nail a crosspiece 6 inches from the bottom. Then put this framework up against the end of the long panel, and make the notches which are to receive the projecting ends of panels. Allow about an inch for the points of braces to sink into the ground. After braces have been marked take them apart and saw out the notches.

With these pieces as patterns, mark as many more boards as are needed, and then nail together again. Make the width of notches a little more than twice the thickness of the boards, as the ends of two panels fit into the notches except at the ends of the fence. If all the panels are exactly the same they can be used anywhere interchangeably. Use tenpenny nails and clinch them crosswise of the grain of the wood.

Blunders in Co-operation—Then Success

By Jerry F. Williams

THERE are two legitimate ways of studying and teaching farm subjects—by theory and practice. The farmer best able to skillfully use each has an advantage over his fellows. Some are strong on theory; others are down on "book farmin'," and work from sun to sun, exist for a while, and die "unwept, unhonored, and unsung." The writer inclines to dreams and theories, if you please, but what follows will be mostly cold facts.

Co-operation in horse-breeding failed in my locality in Illinois because of lack of "horse sense" on the part of farmers. A promoter sold stallions worth about $300 to farmers' clubs at from $1,000 to $2,000 each. When the thing "leaked out" it was the end of co-operative horse-breeding. But co-operation among hog and sheep men in a small way has succeeded and will likely be extended. Two or three farmers unite to purchase stock, especially choice males, also for advertising and selling. Feeders also combine in buying supplies.

In Fayette County, Illinois, ten farmers launched into silo-building a few years ago. Many blunders followed. Some of the silos cost too much, some were blown over, and a few were damaged from carelessness; but, on the whole, the plan succeeded well. Others soon joined the club or started a new one, and silo co-operation is growing right along. Co-operation also has been practiced in a small way in the purchase of rock phosphate in my locality, and not far away there is a club working out problems in fruit-growing and poultry.

E

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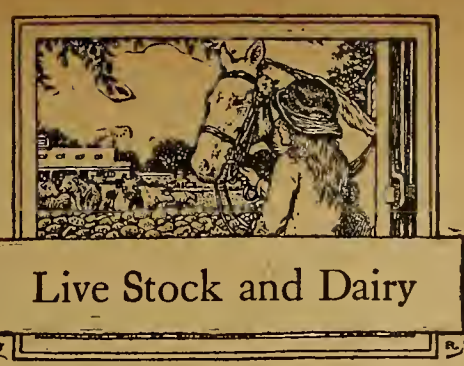


Live Stock and Dairy

Live-Stock Soothsayers

IT USED to be easy to tell a good milker from other cows. All that was necessary was to notice how the hair grew on that rear part of the cow's anatomy called the "scutcheon."

Somebody said that this was an infallible test a long time ago, and sheep-like we followed our leaders. Although it is now well known that the number of the cow's eye winkers has just as much to do with her milking qualities as her scutcheon, some breeds of dairy cows are still scored in contests by allowing a certain number of points for the scutcheon.

Another man had an easy way to tell the laying hen. If the short feathers at the base of the comb lay flat, the hen was a poor layer. If these feathers curled forward, she was a good layer. Trap-nesting the hen showed that there was nothing in this, just as Babcock-testing the cows showed the silliness of paying any attention to the scutcheon.

We still are told a great deal about the way a cow must be built, and how a hen must be built, in order to be a good milker or a good layer, as the case may be. But the best poultry breeders are convinced that whatever the hen's type may be, if she lays a large number of eggs when trap-nested she is a good layer.

A German experimenter after testing a large number of dairy cows found that so far as he could see there was no difference in their milk production which could be detected by examining them for their conformity to type. Yet we continue to depend on the live-stock soothsayers instead of actual test.

It will probably turn out that we are as far wrong in the matter of type as we once were on the question of the scutcheon. Heredity and performance are the only tests of a good dairy cow.

THE best order in feeding is: Water, hay, water again, grain.

OVER three million cattle and nearly as many hogs had foot-and-mouth disease in Germany in 1911. From 3 to 40 per cent of the affected animals died. The first outbreak, which occurred over twenty-four years ago, got away from the authorities, and they have never been able to control it since.

Don't Stitch a Torn Teat

By Dr. A. S. Alexander

A KENTUCKY dairyman has a cow with a torn teat, the wound being several months old. The teat was sewed up after the accident, but the stitches tore out. The cow is fresh and the teat can be milked, but it leaks. This dairyman wants to know what to do.

It is a mistake, in my opinion, to put stitches in a torn teat. They only tear out and make new and bothersome wounds. At time of accident it is best to remove shreds of skin and cleanse the wound perfectly. Disinfect with a two-per-cent solution of carbolic acid, coal-tar disinfectant, or one-thousandth solution of corrosive sublimate. Then dust with iodoform, and at once bandage the teat from tip to udder with a strip of surgeons' tape or plaster, put on in a spiral, but not too tightly. The tape may be removed in a week or ten days.

Do not attempt to operate on the leaking wound while the cow is giving milk. Wait until she is dry. Meanwhile paint the opening twice daily with flexible collodion. Do not use a milking tube. It will be almost certain to cause ruinous infective garget of the quarter.

When she is dry, cleanse the teat, disinfect with one-thousandth solution of corrosive sublimate, rim out the old wound and fistulous opening with a small sharp scalpel right down to the inside duct; then dust with iodoform and bandage with tape as above advised; or have a graduate veterinarian operate in the way he thinks best.

Milk Early: It Pays

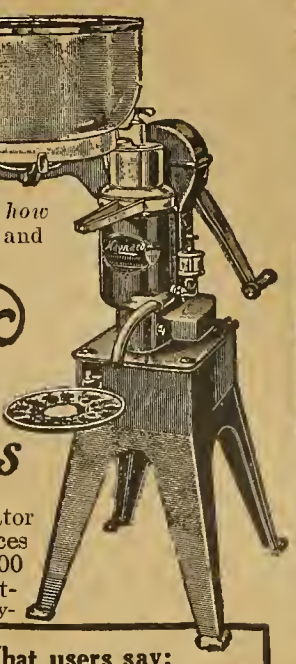
By M. Coverdell

MILK early and turn the dairy cows to grass in time for them to do their grazing before it grows so hot. They then can lie in the shade and enjoy chewing their cuds during the hottest portion of the day. It will mean greater comfort for the cows and more milk in the pail at evening.

Cow Profits Book Free

Send Name On Postal Now

Tells how to get more butter fat and *better grade* butter fat. Shows how to make more profit from every cow. Gives you *interesting and valuable information that will help you make your farm pay better.* Every page tells about a gold mine on your farm and shows you *how to get its wealth.* Illustrates and describes complete line of



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Revolutionized cream separating. Skims every drop of milk *eight separate times*—gets every trace of butter fat. One-piece construction—no discs to rust or adjust. Put back *right* with your eyes shut. Made of Aluminum—*can't rust.* Grease and milk slime do not stick to it. Washed in a minute. Needs no wiping. Doesn't retain odors. Greatest invention in all separator history. Think how much work and time it saves *twice a day, every day.* Think how much extra butter fat it gets for you!

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What users say:

One-third more butter
John Piechota, Nashville, Ill., writes: "The Maynard is working fine. We are making one-third more butter from the same cows and get 5 cts. more per pound. We like our Maynard better every day."

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Wm. Carmichael, Glen Eastern, W. Va., writes: "My Maynard Cream Separator gives perfect satisfaction. I believe it equals other machines selling here for $65.00."

Neighbor orders one
Mrs. Coats, Gallatin, Mo., writes: "We think the Maynard is great. We have owned and used a . . . . as well as an. . .but think the Maynard beats them all. One of our neighbors brought in his milk here and separated it. He liked the Maynard so well he is ordering one today."

Best in Community
W. M. Schiffler, Swoope, Va., writes: "The Maynard arrived several weeks ago in good shape. I believe I have the best separator in this community."

Hundreds of other letters from users prove Maynard quality. Prices speak for the wonderful *value.*

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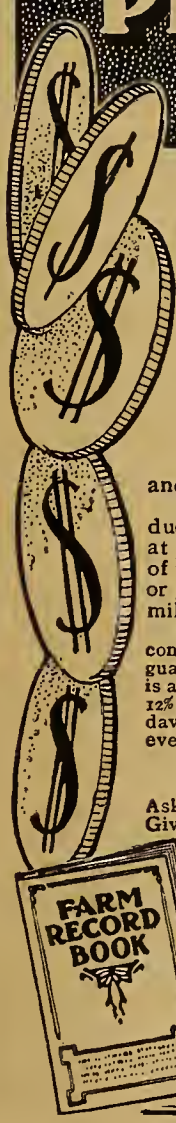

STUDY dairy needs from the standpoint of ***cost*** as well as ***merit.*** Ask yourself these questions: "Can I continue feeding corn at $31.00 per ton and oats at $42.00 per ton and make my cows pay a profit? Can I afford wheat bran, costing today over $60.00 per car ***more*** than

CLOVER LEAF DAIRY FEED

and containing 11 per cent ***less*** nutriment?"

Good business judgment says *"No!"* Never has the ***economy*** of our product—Clover Leaf Dairy Feed—been as evident or as much in your favor as at present. Clover Leaf Dairy Feed can be substituted for wheat bran—part of your corn chop—all of your oats—and, if mixed with some cottonseed meal or gluten feed, or both, gives you a ration that cannot be beaten for cost or milk production.

Every bag of CLOVER LEAF DAIRY FEED contains true statements of ingredients and is guaranteed to analyze 16½% Protein of which 88% is available, 3½% Fat of which 90% is digestible and 12% fibre of which 40% is available. A sworn affidavit of analysis is furnished your dealer with every car. Guess work is absolutely eliminated.

Free Farm Record Book

Ask your feed dealer for Clover Leaf Dairy Feed. Give it a fair try-out and you'll conclude that it means greater economy and ***bigger profits*** for you. If your dealer does not handle Clover Leaf Feeds, write us, mentioning your dealer's name, and we will send you a valuable Farm Record Book—absolutely FREE. You need this book because it will help you put your whole farm on a ***dollar basis,*** and show you where you are ***losing*** and where ***making*** money.

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SOME HARD KNOCKS

Woman Gets Rid of "Coffee Habit."

The injurious action of coffee on the hearts of many persons is well known by physicians to be caused by *caffeine*. This is the drug found by chemists in coffee and tea.

A woman suffered a long time with severe heart trouble and finally her doctor told her she must give up coffee, as that was the principal cause of the trouble. She writes:

"My heart was so weak it could not do its work properly. My husband would sometimes have to carry me from the table, and it would seem that I would never breathe again.

"The doctor told me that coffee was causing the weaknesses of my heart. He said I must stop it, but it seemed I could not give it up until I was down in bed with nervous prostration.

"For eleven weeks I lay there and suffered. Finally husband brought home some Postum and I quit coffee and started new and right. Slowly I got well. Now I do not have any headaches, nor those spells with weak heart. We know it is Postum that helped me. The Dr. said the other day: 'I never thought you would be what you are.' I used to weigh 92 pounds and now I weigh 158.

"Postum has done much for me and I would not go back to coffee again, for I believe it would kill me if I kept at it. Postum must be prepared according to directions on pkg., then it has a rich flavour and with cream is fine."

Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.

Postum comes in two forms:

Regular Postum—must be well boiled. 15c and 25c packages.

Instant Postum—is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water and, with cream and sugar, makes a delicious beverage **instantly**. 30c and 50c tins.

Both kinds are equally delicious and cost per cup about the same.

"There's a Reason" for Postum.

—sold by Grocers.

Economy Calves

You can now feed a calf for the first five months of his life for less than half the cost of the milk he would consume in the old way. Do this with

Blatchford's Calf Meal

This meal has been known as the complete milk substitute since the year 1800. Very easily prepared. It prevents scouring promotes a strong rapid growth and makes a better cow.

Write for Actual Figures based on results, that show you how to increase your calf profits. The new data will be sent for the asking. Write today.

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Only $2 Down

One Year to Pay!

$24 Buys the New Butterfly Jr. No. 2. Lightrunning, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in four larger sizes up to 5 1-2 shown here.

30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save half.

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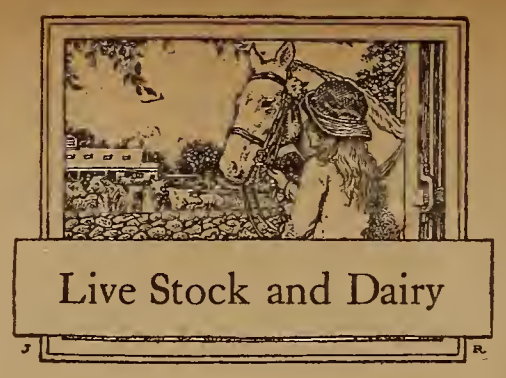

Still No Cholera "Cure"

BELOW is a list of cholera remedies tested last year by R. A. Craig, veterinarian of the Purdue Experiment Station:

Hog Cholera Specific, sold by the U. S. Specific Co., Indianapolis, Indiana. All of the 4 pigs treated died of cholera.

The American Specific No. 2, sold by the American Specific Co., Peoria, Illinois. Three of the 4 pigs treated died.

Sodium Cacodylate, furnished by Abbot Alkaloidal Co. All of the 13 pigs treated died.

Blue Moon Hog Cholera Corrector, Blue Moon Stock Corrector Co., Crawfordsville, Indiana. All of the 8 pigs treated died.

Crozier's Hog Cholera Cure, sold by the Crozier Stock and Poultry Powder Co., New Albany, Indiana. Seven of the 10 pigs treated died.

On the other hand, nearly 50,000 hogs were vaccinated during the year with state serum. Losses in healthy herds were only 3 per cent, and in exposed herds about 9 per cent. Thus, prevention by vaccination remains the only effective way of combating hog cholera.

Plan Now for a Flyless Stable

By Clifford E. Davis

MANY of us do not realize the difference in comfort between a cool, flyless stable and a hot, dusty one. A few trees set near the stable so that shade will fall on the doors and windows in the middle of the day will do wonders in making it cooler inside in summer and breaking the fury of the wind in winter. Select low-growing trees, such as the walnut or dogwood. The dogwood is especially wide-spreading and leafy. A high tree-box will save the trees from stock until they have grown large enough to have a hard bark.

Have some kind of blinds for the stable windows, even if only made of heavy building paper tacked over a light framework on hinges. And when the tired horses come in from work on a hot summer day, close the blinds, and they can rest at ease instead of standing and switching in constant fight against flies.

I have seen stables where spiders as big as hazelnuts hung down from their festooned webs, and the grimy windows were almost opaque. Such places are a menace to the health of the man or beast that enters them. Take the next spare hour or two and put your stable in shape for summer comfort. The horse and cattle will appreciate it, and you will too.

To Rid Cattle of Warts

By Dr. A. S. Alexander

A JERSEY heifer belonging to a Pennsylvania subscriber has warts on her nose, also on both eyelids and all over the udder. The largest wart is the size of a walnut, and the others are about as big as peas.

To get rid of warts of large size it is best to use the knife, but twisting them out often suffices, providing you then cauterize the bases by lightly rubbing with a stick of lunar caustic or applying a little nitric acid on a glass rod. Masses of warts of small size affecting the skin of the head or udder are best treated by rubbing twice daily with the best castor oil, fresh goose grease, or a mixture of one tablespoonful bicarbonate of soda in a cupful of melted lard. The treatment has to be persisted in to bring results.

Warts on the body may be twisted out, then apply a red-hot iron, and if they tend to grow back again apply pine tar freely at intervals of a week. If a wart on the head is sore and cannot be twisted out or cut out, swab it carefully with tincture of iodine once a day, and if that does not suffice treat it with nitric acid twice a week.

Warts are not likely to affect cattle that are fed roots or other succulent feed to regulate their bowels. In bad cases of generalized warts over the body, Fowler's solution of arsenic may be given with good effect. The dose for an adult animal is half an ounce given twice daily at first, and three times a day later, if found necessary. Young cattle take less in proportion. If you cannot feed roots give each animal some flaxseed meal daily in its feed.

A Foot-and-Mouth Obituary

ILLINOIS bore 40 per cent of all the losses caused by the foot-and-mouth epidemic according to figures just made public by the Government. Below is the toll of cattle slaughtered up to January 1, 1915, in the three States which suffered nearly three quarters of the total slaughtering.

States	*Animals Slaughtered*
Illinois	36,758
Pennsylvania	17,896
Ohio	10,111

The appraised value of all animals condemned and killed was nearly three and a half million dollars.

Silage in the Ewe's Ration

By John P. Ross

A MISSOURI reader has a small flock of ewes and wishes to know whether to feed them silage. He asks, "Do you think that silage would put ewes in good condition for lambing time, and will the ewes have good strong lambs and plenty of milk for them?"

Almost any silage that is in good condition is good as a succulent feed to help in the production of milk. But it must not be expected to bring ewes up to lambing unless used in moderation and in connection with dry food. A good dry ration consists of one-half pound oats mixed with one third its bulk of bran, and as much clover, alfalfa, or meadow hay as they will clean up.

The half pound of oats may gradually be increased to one pound. A diet of silage or any succulent feed given alone is likely to produce weakness and lack of stamina in the ewes, and result in a small crop of poor lambs. Even when the ewes and lambs go to pasture it will pay to keep up a moderate grain ration.

Pasturing a Person

HOW much land does it take to support a cow, or a horse, or a hog? Rather important questions to every one of us, but not so important as the query:

How much land does it take to support a person?

A recent survey made by the United States Government in Ohio seems to show that it costs on the average $197 to board and house each person on the farm.

That is, the husband, wife, and three children must have an income of $985 if they live as well as the average.

This is the income in dollars, and the examination—on forty-four farms—indicates that it takes forty acres to "pasture" a person.

Shut Out the Botflies

By E. Quinn

TO KEEP botflies from stinging horses while working, cut from burlap an oblong piece 9 by 14 inches. Sew strong strings to each corner; tie two of the strings to the bridle bit, and the other two around the horse's neck or through the throatlatch, letting the cloth come close up under the throat.

EDITORIAL NOTE: We have also used this device. It makes the horses easier to handle, saves them pain, and enables better and more work to be done. The same protection against botflies we have used on horses and colts in pastures. The results are better growth and thrift as the outcome of a few minutes' labor used in supplying these protectors.

Two Good Worm Remedies

THE following remedies for intestinal worms in swine are recommended by J. G. Fuller, hog expert of the Wisconsin Station, and whom we know to be a good "hand" with swine:

(1) Turpentine mixed into a slop ration at the rate of one teaspoonful to each 100-pound pig. Or,

(2) Sulphate of iron (copperas) dissolved in the slop. Feed at the rate of one dram for a 100-pound pig.

You may suspect worms if the pigs' skins are dry and scurfy, or if they cough without apparent cause. If numerous, worms will be found in the droppings.

Time, Storms, Decay and Fire Defied!

THIS silo is made of vitrified hollow clay tile that will last forever, and each tier of these tile is reinforced by continuous bands of steel laid in mortar. No painting or repair bills. The

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is weatherproof, decayproof, verminproof and fireproof. The vitrified tile walls are impervious to either air or moisture and their dead air compartments prevent freezing. Don't take our word for these claims—write to our nearest branch for a list of Natco owners in your State—ask what they have to say. Also write for our catalog J.

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return it at our expense. We will return your money and pay all freight. Saves one man. Plows ANY ground. Easier on your horses. All weight on wheels. More even furrows. Instantly adjustable. Does 3 days' work in two. Furnished with or without seat. Special Introductory Offer to first buyer in any neighborhood. Write to-day for free book.

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Here is a chance for someone in your county to get a permanent position that will pay well. It is mighty pleasant work, and we guarantee good pay for the man who is willing to hustle.

If you want to make more money than you do now, or if you are looking for a good job, write to us to-day.

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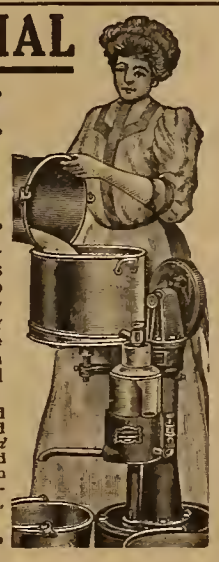


Thousands In Use giving splendid satisfaction justifies your investigating our wonderful offer to furnish **a brand new, well made,** easy running, easily cleaned, perfect skimming separator for **only $15.95.** Skims **one quart of milk a minute,** warm or cold. Makes thick or thin cream. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a **sanitary marvel** and embodies all our latest improvements.

Our Twenty-Year Guarantee Protects You Our wonderfully low prices and high quality on all sizes and generous terms of trial will astonish you. Whether your dairy is large or small, or if you have *an old separator* of any make you wish *to exchange*, do not fail to get our great offer. Our richly illustrated catalog, *sent free of charge* on request, is the most complete, elaborate and expensive book on Cream Separators issued by any concern in the world. *Western orders filled from Western points.* Write today for our catalog and *see for yourself* what a big money saving proposition we will make you. Address,

AMERICAN SEPARATOR CO., Box 1058, Bainbridge, N.Y.

"Home" Boys for Farm Work

By Monroe Conklin, Jr.

HIRED help here in New York State is scarce, high-priced, and unsatisfactory. For this reason I was compelled to go outside my own locality for hired help. I applied to the manager of a children's home for a boy who wished to work upon a farm for wages. Almost immediately I was furnished a boy sixteen years of age for $15 a month through the summer, and $5 per month through the winter.

This boy is "making good" for me, and apparently enjoys his work and opportunities. He tells me that there are many boys at his "home" who are anxious to find employment on farms.

At these children's homes the boys are well disciplined, and are taught to be honest and industrious. This is done by specialists in boy-training, and for this reason it is very thorough, often much more thorough than the training which a boy receives from his parents. I believe that the children's homes can be made a very satisfactory source of hired help for the farmer who is patient and just, and who does not expect a boy to do a man's work.

A Michigan Combination Elevator

By J. L. Graff

THE grain-and-potato warehouse shown in the picture is in Allegan County, Michigan. It attracted my attention because of its substantial character. The structure is roofed and sided with corrugated galvanized metal, and the adjoining office and scalehouse are of the same material.

The elevator has a total capacity of 6,000 bushels of potatoes, 200 tons of baled hay, and 30,000 bushels of grain.

This fire-proof elevator includes storage capacity for potatoes, beans, apples, and baled hay

Space is also provided for beans and apples, of which large quantities are raised locally. Such a storehouse is valuable in a general farming section to hold crops for prices.

Jennie Wren's Autobiography

By Edgar S. Jones

I AM often called the house wren, for the reason that I like to build my nest in a small opening in a building, or in a bird house that has been built expressly for me. If I were to build it in the open at a distance from a house, I would not be afforded the protection that I now am.

Immediately upon my return to my northern home in the early springtime we select a place for our home. Should we not be molested during the summer we return again the next season. We often spend several days in making our nest, and are seldom disturbed by any bird, with the possible exception of the English sparrow.

It will not be long after the nest is built until you will see five or six tiny speckled eggs. During the building of the nest and the hatching season you can hear us singing from early morn until twilight.

Our principal means of defense is our pretension as to what we are about to do, but that we never put into force. By "fussing" around we are often able to drive away an intruder that meant to do us harm.

Our food consists almost entirely of worms, bugs, and insects.

In the autumn when the first chilly winds come, we desert our summer house and move southward. We have often not much more than left when the winter wren makes his appearance. Many persons think he is a member of our immediate family. Although he resembles us very much in size and color, his habits and attitude toward men are somewhat different.

So that you may recognize me at a glance I will give you a brief description. All of my upper coloring is a brown with small bars. The under surface is grayish-white marked with a light brown.

The English sparrow is nearly twice as large as I, consequently if the entrance into the bird house is very small the sparrow cannot get in to build his nest before I arrive in the spring. If there is no step just below the opening it will also assist quite materially in keeping the sparrow away.

Diseased Lumber

WOOD has its diseases, as everyone familiar with timber knows.

Not all of us, however, know that a piece of timber may be infected with disease and rendered unfit for use by lying in a wet place. The disease will keep on feeding on the fiber of the timber even when it has been used in building and is in a dry place.

Such a beam or board may collapse under strain after years in a bridge, house, or barn. It is "sick" and gives out.

Many lumber yards are full of timber disease.

The United States Forest Products Laboratory is engaged in the study of this subject with the end in view of showing lumbermen how to keep their timber free from disease. In the meantime we should examine the conditions in yards from which we buy lumber, and especially lumber which must sustain weight when used.

WHILE cattle and pets in Europe are being sold for lack of money to feed them, fortune tellers are plying their shameful trade profitably among the hungry crowds, and making money at it.

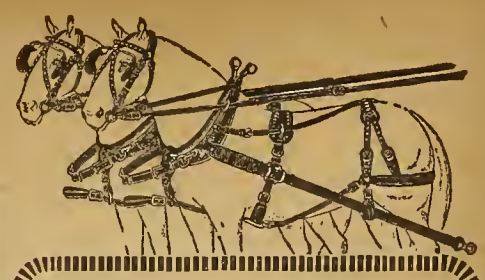
We've Been Doing This for 38 Years

OUR old subscribers know how willing we always are to answer questions. We do answer them by thousands. Many of our readers like the way we do it.

"I was surprised and pleased to get so prompt a reply to my inquiry and to get that reply by mail." So writes F. L. Summerton, a Virginia reader.

"I expected to see the answer printed in FARM AND FIRESIDE," he goes on, "but, as you say, a letter gives me what I want sooner than would an article in the paper. I surely appreciate your service."

We could not print all our answers if we devoted the whole paper to that use and got out an issue every week. Some are not of general interest. But we can help many people. At least they think so. We answer by mail. There is hardly any phase of farming—breeding, soil management, orchardry, marketing, machinery—which we do not cover in our "ASK FARM AND FIRESIDE" service. If you think we can help you, ask us.



Williams Quality Harness

Made From Genuine No. 1 Bark Tanned Harness Leather.

THE harness you should order to insure the utmost service and satisfaction. Sold under the famous guarantee of Sears, Roebuck and Co. Your money cannot buy greater harness value nor higher quality. Turn to the harness pages of your big General Catalog, or write "Harness" on a postal and mail today.

Sears, Roebuck and Co. Chicago

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

TRY-A-BAG—TRY-A-BAG—TRY-A-BAG

Give Every Stalk

a Square Meal

IT PAYS. Just as it pays to put steers in prime condition by supplementing pasturage with grain, just so it pays to treat your crops; to give them the *quickly available* kind of plant food in addition to the slowly available plant food already in the soil. No matter how splendid your pastures may be, yet prime beef demands concentrates, and no matter how rich your soil may be, bumper crops demand *active, soluble, fertilizers* which are plant concentrates. The actual feeding period (about 60 days for most crops) is not long enough to allow abundant absorption from usual sources, and just as sure as it pays to feed concentrates to stock, it pays to feed concentrates to crops. It's a matter of give and take. Don't be satisfied with less than a 75 bushel corn crop. You can probably get more, by supplementing good cultivation, green crops, liming, etc., with

A. A. Brand Fertilizers

Get a big increase *this season,* at a good profit on the investment. It's just a plain business proposition of "give a little and get much."

"Try-a-bag" $2.00 to $4.00 worth will show you on an acre. Prove to your satisfaction at this small expense, that if you "feed the plant it will feed you." You'll find your experiment crop has more vigor, matures earlier and is better quality. You can plant later yet harvest earlier, thereby insuring against early frosts. Our effort in making A. A. Fertilizers superior is to make their Nitrogen, Phosphorus and Potash most highly available. We've succeeded—as thousands of farmers will testify. Yet there is no loss from contact with air and leaching in A. A. Brands. A. A. Fertilizers for corn are especially successful. They contain every element required for quick, heavy growth. We have a spendid agency proposition to make you—also a carload order inducement. Our two books "Plant Food" and "The Problem of Fertility in the Middle West", are free. Write for them today—at the nearest branch, and don't forget to *"Try-a-bag"*

THE $1000 CORN-GROWING CONTEST

for Indiana and Ohio last season showed yields of 82.5 bu. to 115 bu. per acre. A. A. Fertilizers did it. "Try-A-Bag" yourself.

The American Agricultural Chemical Company

Cincinnati, Cleveland, Detroit, Buffalo, Baltimore, New York

TRY-A-BAG—TRY-A-BAG—TRY-A-BAG

FARM AND FIRESIDE

THE NATIONAL FARM PAPER

Published every other Saturday by
The Crowell Publishing Company, Springfield, Ohio

YOU'RE on the jury. Ever realize how many decisions of different kinds you make even in a day? And we know you like fair play.

So when you see any opinion advanced or statement made in FARM AND FIRESIDE that seems to you unfair or biased, speak up and say "Fair Play!" This issue, and every other issue, is open to criticism or approval in more than half a million homes besides your own. It's so easy to condemn on appearances. Give us your views and reasons on the other side if you think only one side has been given. Even if you have only something nice to say, send it along.

HERBERT QUICK, - - - - - - Editor

March 27, 1915

Liberating Russia's Wheat

AS THIS is written, the greatest battle which ever took place between warships and shore fortifications is being fought in the narrow waterway from the Black Sea to the waters of the Mediterranean.

It is a battle for wheat. Its outcome will affect the price of every bushel of wheat and other grains now held in the United States, and every bushel harvested next season.

A glance at the map of Europe shows that this must be so. Russia is a great wheat-growing country. There is now on hand there a huge supply of wheat which cannot get to market—from 125,000,000 to 175,000,000 bushels.

It cannot get to market because Germany controls the waters and railways leading westward from Russia. Russia will not sell to Germany or Austria because she is at war with them.

The Black Sea is Russia's outlet, and Turkey controls the Bosphorus, the little Sea of Marmora, and the Dardanelles, that ancient waterway between the East and the West for which battles have been fought for thousands of years.

Wheat has gone off several cents a bushel because the Allies have smashed the forts at the entrance of the Dardanelles. The American farmer's pocketbook is vitally affected because England has built a great ship, the Queen Elizabeth, which crushes forts as did the German siege guns in Belgium. And yet there are those who say the United States can keep out of entanglements in world politics!

The map of the world is changing. History is turning as on a pivot in this war. And we as farmers will find the price of feed and the rewards of our labor changing with the map and the course of history.

Buying as Grandpa Did

IF WE buy, year after year, the same things our fathers bought, what have we gained by progress? Why should a dealer in any kind of merchandise or machinery take the trouble to keep the latest and best thing in stock if we, his customers, are satisfied with the old things? We are pretty consistent "suckers" if we fail to keep posted on what is doing in the factories where things are made for use in the house and out. We can't visit the factories, but we may be sure that they are busy places and that they are hard at work on things which are interesting.

In the long run, people do not buy things which are not profitable to them in one way or another. If all these able men are at work on things meant to benefit us, we may well spend some time looking over their wares.

The village dealer may not keep the things you want, and you can prove it to him by showing him the catalogue of the man who does make the right thing. The manufacturers are only too willing to send out their reading matter. It is interesting reading matter too. On almost any merchandise or machinery subject it is perfectly easy to secure a very valuable library by sending for catalogues.

The writer knows of a splendid library on concrete and the use of cement in building, the bulk of which is catalogues. The owner of it is a student of cement, and is a well-known figure at the cement shows. Another, who means to build a barn one of these days, has got together an enormous mass of information on barns and their materials and equipment, which in the main have cost him nothing but letters to advertisers of such things. Another, an elderly man, since his retirement from business, has learned to tell the names of more of our plants, both common and uncommon, than the ordinary professor of botany could identify. He learned from the catalogues of seedsmen and nurserymen, whom he pays for their kindness by his constant talk about their wares.

If all the literature of farming were to be wiped out it could largely be replaced from the reading matter sent out free by the advertisers in farm papers—machinery, household goods, everything.

They Help Each Other

DID you ever see a deaf beggar? Probably not.

Did you ever see a Jewish pauper? Probably not.

Did you ever see a Dunkard in the poorhouse?

It is safe to say you never did.

The deaf do not beg because the deaf are organized to help each other. There are many beggars who pretend to be deaf, but the deaf-mutes of the country make the claim that these are impostors. No great class which has a good system of mutual aid will fail to keep their members from falling into beggary.

The Jews take care of each other. There would be more Jewish paupers than are furnished by any other class of similar numbers if it were not for that fact, for most of the Jewish immigrants are very poor. But they help each other.

The Dunkards are mostly farmers, and they are more uniformly prosperous, it is safe to say, than are the farmers of any other religious denomination. The reason lies not only in their character for honesty, frugality, and industry, but in their willingness to give each other financial assistance.

There is a lesson in this for us all—especially for farmers. We are not organized to help each other as we should be.

The Heavy Milker

IN EACH of the great dairy breeds a class of heavy milkers is now established which are registered in a different way from those which have not been tested for milk yield. This is called "advanced registry." As a matter of fact, the wise dairyman of the future will think advanced registry the only registry which will be worth a Continental. The test of a milker is milk.

Why Wheat is Grown

THE best solution of the wheat scarcity is to let the law of supply and demand send up the price of wheat. Under such conditions the farmer will sow to wheat every available acre everywhere, fertilize it, care for it, garner it in, and put it on the market.

Our Fidelity

THE naturalized citizen may well repeat every morning the oath which he took when admitted to citizenship: "I do solemnly swear that I will support the Constitution of the United States and of this State, and that I do absolutely renounce and abjure all allegiance and fidelity to every foreign prince, potentate, state, or sovereignty, and particularly the one of which I was formerly a subject or citizen."

The emissaries of foreign nations are busy trying to make our naturalized citizens break this oath. They are actually preaching fidelity to foreign potentates and princes and kings and emperors. This is a danger to our country's peace with the world.

Our fidelity is due to the Government at Washington. We should acknowledge no faith or allegiance to any other. Let us all do this—and the naturalized citizen is scarcely more liable to error in this regard than the native-born—and the blessing of peace may be preserved to us in a world torn by wars, even though the wars should last for many years.

Our Letter Box

Says the Carrier's Pay is Just

EDITOR FARM AND FIRESIDE: I have read Judson C. Welliver's article on the expense of the R. F. D. service, and wish to reply to it, having carried mail for four years.

I wonder if people realize how much of the carrier's monthly wage goes right back to the farmer? He buys hay at $20 per ton, oats at 50 cents per bushel, corn at 65 cents per bushel, and straw at $7.50 per ton.

Besides there is house rent and blacksmithing. Now this is written in a splendid rural community in the heart of the grain belt of Knox County, Illinois. I know three carriers' wives in a city not far from here who help with the month's expense by doing family washing. Does this look like Uncle Sam is paying his boys too much?

Furthermore, I know from coming in touch with people who are served by rural routes how much they appreciate the service. A great many live back in the woods who find the rural route the main opening between them and the world in general. They are splendid people, content to stay on their farms because they have their mail daily.

The first three years of my service I served 23¾ miles on which were 23 hills. I called them hills: some folks, an inspector maybe, would say "inclines and declines."

Some of them looked like mountains to me the first time I traveled them, which was on the 10th day of January eight years ago, and the roads were so rough I put the lines around my neck, held the mail pouches in the buggy box with my feet, sat on the bunch of letters, and held on to the side bows of the buggy top to save my head from being bumped.

One stretch of a mile and a half had five of these hills. Some places there wasn't room for teams to pass on these roads, and when the doctor tried to reach some patient in his auto I would have to wait at the top of the hill while some good farmer pulled his car up for him. ALTA D. ARTZ.

Thinks Postal Banks Are Shackled

DEAR EDITOR: A very simple, easy, and complete solution of the problem of rural credits, both short and long loans, is to "unshackle the postal savings bank."

Make every post-office, every letter carrier its servants, as they now serve for money orders, registered letters, and parcel post, and there would, in a few months, be an army of at least twenty million depositors. In the same ratio as existing savings banks average about $400 each, that would give about eight billion dollars to finance the farmer and oil the wheels of industry and commerce generally.

Of course the unshackled postal bank would pay, not the ridiculous 2 per cent interest as now, but whatever the money could be safely made to earn, as in all other savings banks. Of course the money would be loaned, not to bankers as now, at 2¼ per cent, but to whosoever (for legitimate use) would give adequate security and the most interest, as in other savings banks.

JOHN B. ALDEN, New Jersey.

Expensive Business

DEAR MR. QUICK: I cannot afford to work for the prices others charge. To do satisfactory work in vaccinating hogs when they are exposed to cholera, a veterinarian must be ready at all times. Therefore I have extra expense. For instance, suppose you have 100 hogs that get the cholera and you call your local veterinarian. He comes right out, finds cholera, looks up and says, "Well, John, you had better have them vaccinated." You say, "All right, Doc, order the serum."

At the time the doctor was at your farm you had three hogs "off," and by the time he gets the serum and vaccinates you have 30 of them sick or dead. Therefore your delay has entailed at least a 25 per cent loss, not saying what may happen if the serum does come in time.

The veterinarian in this case uses all the serum and treats all the hogs. But you are dissatisfied because you had too large a loss.

But suppose a neighbor called me, saying, "Well, it costs a little more for Doc So-and-so, but he doesn't lose so many hogs." I go and take the right amount of serum with me for 100 hogs. I make a post-mortem on one, find cholera, and vaccinate 97 because the other two are too sick.

In many cases I save 100 per cent of what I vaccinate. You paid your veterinarian 60 cents per head, but your neighbor pays me 90 cents per head. I charge more because I am always ready and have more expense.

I have virus coming every eight days and serum twice a week. I would not do otherwise.

My telegrams and express cost money too!

If I open a bottle of serum only to finish up on two or three hogs and I do not get a chance to use it in a day or two, I throw it away because I can afford to. But the man you used could not because he does not get enough to do an honest job. DR. E. B. FENTON, Iowa.

Taxed Enough Now

DEAR FARM AND FIRESIDE: I note what you say about taxing narrow-tired wagons $1 each a year. I think that is an outrage and should not be tolerated for a minute. Too much taxation now. See Ohio Constitution, Article 12, Section 2.

L. A. LAWMASTER, Ohio.

"As Others See Us"

MR. HERBERT QUICK: I see your picture in FARM AND FIRESIDE and cannot help laughing every time I see it.

I. M. M., Pennsylvania.

MY OBJECTION to FARM AND FIRESIDE is that it doesn't publish quite enough quilt patterns. MRS. H. M., Ohio.

I FEEL that it is a sort of imposition to take the six roses, as the paper is cheap at 50 cents. W. E. C., Virginia.

DEAR EDITOR: When I look at your picture it seems like looking at one of my near relatives. O. D., Ohio.

IF YOU would put in a little more for the housewife and not all for the farm, it would suit me better.

L. R. B., Kansas.

I HAVE taken FARM AND FIRESIDE about seven years, and the editor has become like a dear friend.

M. C. P., Ohio.

I MUST say that a device in your Headwork Shop to stop a kicking cow has saved me many a sore shin.

O. D., Ohio.

I BELIEVE my wife is right when she says you do not love dogs, else you would not suggest such a drastic law on the dog question. J. F. P., Missouri.

I WANT to thank you for your interest in the sheep matter, and assure you that not only myself but the sheepmen of this State appreciate it. H. H., Missouri.

MY BOYS say, "Well, Dad, we can't get along without FARM AND FIRESIDE. If you are going to stop any of the papers let it be some other one."

E. M. H., Michigan.

THE other magazines I have taken from time to time have all been dropped, not that I am prejudiced, but your paper is for us common fellows as well as others. I certainly like it.

E. A. L., Oregon.

DEAR little paper, I love you! We have been friends for a long time, longer than we will be, perhaps, for the years are beginning to tell on me. In six weeks they will number seventy-six.

MRS. S. S., Nebraska.

I PROTEST against the way you condemn that good and faithful friend, the dog, in the pages of your magazine. Mr. Quick must be one of those cranks that would deprive women and children of their best friend and protector.

C. T., New York.

I HAVE read with much interest the articles relative to the destruction of sheep by dogs, and certainly appreciate the great work you are doing for the sheep industry by bringing this matter before the public. G. A. B., Michigan.

MY WIFE subscribed for your paper just to help out the solicitor more than anything else. I told her she was "stung," and lots of "dope" along that line. But after the paper came she had the laugh on me because I think your FARM AND FIRESIDE is the best "dog-gone" paper of its kind published, and it's a scramble to see who gets it first when the mailman comes. E. M., Indiana.

EW

Cottonseed Flour—A New Food

It's Easy to Learn to Use, Twice as Nourishing as Meat, and Much Cheaper

The foreground shows piles of white flour and cottonseed flour from which you can judge the color. In the background are (left to right) cottonseed corn bread, bread, biscuits, and muffins. The muffin on top of bread shows the texture when broken

THE pictures tell most of this story. They show the outcome of the first bakings conducted by FARM AND FIRESIDE with cottonseed flour.

If cottonseed flour can be extensively used for human food it will make what has been wasted into people. It will help the farmers of the South. It will cheapen food everywhere. It may stop the dreadful disease pellagra, by giving improperly nourished people a balanced ration cheap.

Cottonseed flour tastes like raw peanuts, looks like mustard, and bakes about like Graham flour. It gives a dark brown, almost chocolate, color to the foods.

It has in it over twice as much bone and muscle as beef, twelve times as much fat as wheat flour, nine times as much starch and sugar as cheese, thirteen times as much mineral matter as rice, and a quarter as much water as eggs.

It is about one half flesh-building material, one eighth fat-making material, one quarter energy-producing material, and the rest chiefly water and mineral

Cottonseed cakes—good to look at and better to eat

matter for making bone. It is a hearty food, but is twice as easy to digest as beef, mutton, or eggs.

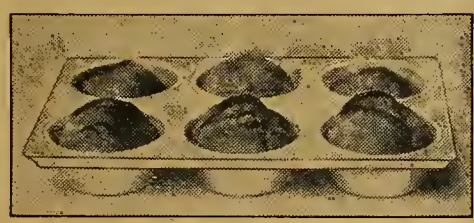
It is a new thing for human food, requiring newly perfected milling machinery. Of course cottonseed meal is familiar as a stock feed and fertilizer. We owe most of our knowledge of cottonseed flour to Dr. G. S. Fraps, state chemist of Texas.

The most important use for cottonseed flour is to improve the diet, giving cheaply as much nourishment as beef, and reducing living expenses. It is too concentrated to use unmixed. One part to four parts of other flour or meal is the limit. One part to six is a good average proportion, and one to eight or even less may suit some tastes best.

"It's just like any good hearty food," says one who ate of the loaf of bread shown. "I like the flavor, and I believe I should develop a real taste for it. It improves the ration, and ought to appeal to everyone interested in good nourishing food."

As cottonseed flour costs only 5 cents a pound, and is more nourishing than meat, its advantages are clear.

The best way to handle this new food product is to have cottonseed flour on



Six cottonseed lightweights

hand to mix with other flour or meal to make a more nearly complete food.

The muffins and pancakes were successful. "It isn't only the knowledge that cottonseed flour is healthful and nourishing," said a man who ate of them, "but I like it."

"It complicates the recipe," said the housewife, "but it's worth it."

The young woman who contributed the cottonseed-flour corn bread says she thinks enough of the new flour to have it in the house all the time. "I like the corn bread made with the cottonseed flour," she says, "better than just the ordinary corn bread. It would enable us to use less meat. I think it should interest every family facing a big weekly meat bill."

Another says, "We don't miss meat when we use cottonseed flour in our bread."

"You have to have some experience in handling the flour and getting accustomed to the right proportions," says another housewife, "just as with any new recipe."

The chief obstacle to cottonseed flour is the prejudice against bread that isn't white.

The consensus of opinion among those who have tried it is that it requires about one fourth more yeast or baking powder than other flours.

It also needs a little longer cooking and a slightly hotter oven.

Checkers by Mail

THUS far 133 players in 36 different States have enrolled to play by correspondence. Of these, 128 are men and 5 are women, three of whom write Miss before their names.

The player farthest east is in Nova Scotia, Canada. The farthest west is in Washington State, near Puget Sound, farthest south in Louisiana, about 150 miles from the Gulf, and farthest north in North Dakota, 10 miles from the Canadian line.

The greatest distance between any two players is 675 miles. This game is between a Texan and a Colorado man, but both are near the same railroad line, so the game will be finished about as soon as any.

The diagram shows how a checkerboard is numbered to play by correspondence. To describe a move, the player having the black men says, for example: "I move from 11 to 15."

Then white may write back: "I move 22 to 18, you have to jump 15 to 22. Then I jump 25 to 18. It is now your move." In a similar way the whole game is played to completion.

Some Opinions

I would like to join this new thing you are starting called playing checkers by mail. J. E. D., Mass.

You will please place my name on your list for the checker competition. It is a good thing and I hope you receive hearty co-operation. Push it along! I. H. H., Oregon.

The article captioned "Do You Play Checkers?"—in the last issue of FARM AND FIRESIDE—pleased me. It is encouraging to note a farm publication interesting itself in the recreative side of rural life.

And what an excellent and satisfying recreation checkers is! And dignified and constructive withal! Why do you not install a checker department?

J. F. R., New York.

Studebaker
WAGONS BUGGIES HARNESS

A STUDEBAKER THAT HAS SAVED MONEY FOR ITS OWNER

I bought my Studebaker from your agent, D. M. Smith, at Flint, Mich., in 1876, and have used it continuously on my farm.

I have a farm of 140 acres, with good buildings, and this wagon hauled all the material.

Two years ago my son put on three tons of sugar beets and hauled it over frozen ground to the scales.

Last summer we hitched a loader behind it and drew our hay to the barns.

The wagon had not been sheltered half the time for the last twenty years yet has never broken a wheel or an axle.

John H. Wood,
Flushing, Mich.

Hitches other wagons to his 37 year old Studebaker

A WAGON thirty-seven year old that can stand the strain of having another laden wagon hitched to it might be called a remarkable example of wagon building.

But it is a Studebaker—and Studebaker wagons are built to withstand any reasonable strain; and to last, not ten or twelve years, but a lifetime.

An investment that pays

Think what it means to get 37 years and more of work out of a wagon.

Cuts down the cost—doesn't it?

Especially if you compare 37 years with the 12 years an ordinary wagon lasts.

Studebaker wagons last a lifetime—because they are *built* to last. Wheels, body and gear are the work of experts. Air-dried lumber, tested iron and steel make for strength and lasting qualities.

Don't be imposed upon by the wagon salesman who wants to sell you a farm wagon "Just as good as a Studebaker."

Remember this—a Studebaker farm wagon is sold as cheaply as it is possible to sell a *good wagon*.

Studebaker Buggies and Harness are also built to last.

STUDEBAKER, South Bend, Ind.

NEW YORK CHICAGO DALLAS KANSAS CITY DENVER
MINNEAPOLIS SALT LAKE CITY SAN FRANCISCO PORTLAND, ORE.

Adv 2032

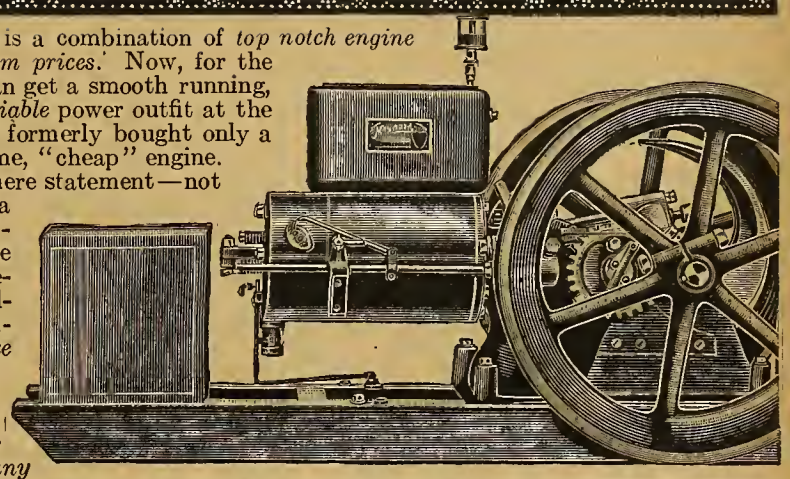
Studebakers last a lifetime

FREE *Get this Book about the Biggest Sensation in all Engine History*

WRITE POSTAL FOR YOUR COPY TO-DAY

At last—here is a combination of *top notch engine quality and bottom prices.* Now, for the *first time*, you can get a smooth running, steady, quiet, *reliable* power outfit at the same price that formerly bought only a noisy, troublesome, "cheap" engine.

This is not a mere statement—not a promise—but a *written guarantee*, backed by the reputation and resources of this Million Dollar Company. *We make you the judge and jury.* If the Maynard is not equal or superior to any engine at *any* price—return it and get every penny back, including transportation charges. That's *proof of our confidence* in the high quality of the Maynard. The *prices* speak for the wonderful *values.*



60 days' trial—no money in advance

Send in your name on a postal card for facts that prove this the greatest sensation in all engine history. Read why the Maynard would cost three times our prices if sold through dealers. Read about Maynard strength, durability, *reliability.* Read why the Maynard starts so easily, runs so smoothly, quietly and steadily. Read why the Maynard gets *power* out of every drop of fuel. Read why a boy can run it. Study the speeds at which Maynards are rated and compare them with others. Read why we send you any Maynard Engine on 60 days' trial, no money in advance. Guaranteed to give at least 5 years' service. Note our guarantee to sell repairs (if needed) any time within 15 years or give you a new engine or full price back. Compare the Maynard, point by point, feature by feature, with the engine you *think* is best, no matter how much it costs. *Then decide.*

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GUARANTEE

We guarantee this engine to develop——Horse Power and to be capable of standing a reasonable overload continuously without overheating or damage. We guarantee the life of this engine to be 5 years or more, and we will replace it if it should become useless inside of five years, provided the damage is not caused by misuse or neglect. We guarantee this engine to run as well and last as long as any engine of like size and type, regardless of make or price. We guarantee it to be free from defects in material and workmanship, and will replace free any part (excepting batteries) that may wear out or break from defect at any time during the life of engine.

Send in your name Now! Write postal now. Get our book. Read descriptions of all Maynards, 1½ to 15-H. P., built to operate on gas, gasoline, kerosene or distillate; also pumping, sawing, grinding, silo filling and corn shelling outfits. Just say, "Send Engine Book," and address as below. Book comes by return mail.

The Charles William Stores New York
AT THE NATION'S GATEWAY
536 Stores Bldg., New York

THE WAY OUT

Change of Food Brought Success and Happiness.

An ambitious but delicate girl, after failing to go through school on account of nervousness and hysteria, found in Grape-Nuts the only thing that seemed to build her up and furnish her the peace of health.

"From infancy," she says, "I have not been strong. Being ambitious to learn at any cost I finally got to the High School but soon had to abandon my studies on account of nervous prostration and hysteria.

"My food did not agree with me, and I grew thin and despondent. I could not enjoy the simplest social affair for I suffered constantly from nervousness in spite of all sorts of medicines.

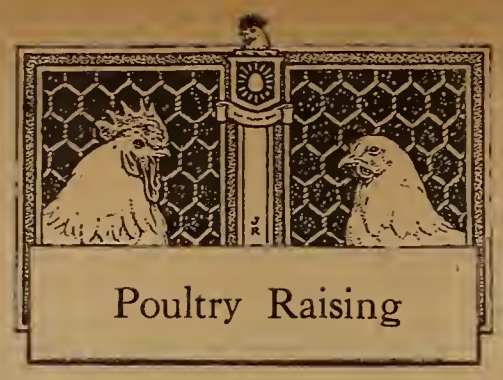
"This wretched condition continued until I became interested in the letters of those who had cases like mine and who were being helped by eating Grape-Nuts.

"I had little faith, but procured a pkg. and after the first dish I experienced a peculiar satisfied feeling that I had never gained from any ordinary food. I slept and rested better that night and in a few days began to grow stronger.

"I had a new feeling of peace and restfulness. In a few weeks, to my great joy, the headaches and nervousness left me and life became bright and hopeful. I resumed my studies and later taught ten months with ease—using Grape-Nuts every day. I am now the mistress of a happy home, and the old weakness has never returned."

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.



Poultry Raising

Learn to Diagnose Hunger

By B. F. W. Thorpe

LOWERING the cost of keeping chickens is not given half the attention it should receive. The majority of chicken owners think their birds need grain when they act hungry or restless. The first move is to throw a lot more of expensive grain to allay the restlessness of the hens. In most such cases what the birds are asking for is green, succulent, bulky food, fresh water, grit, and animal food or bone.

The heavier breeds in particular would be much better off in vigor and productiveness in many cases if half of the costly grain were replaced with a good quality of cut or ground clover or alfalfa hay, some roots, cabbage, apples, potatoes, or silage. By such a change of feeding costs can be reduced.

Two Cents a Hen Daily

By Leonard F. Strickler

AN AVERAGE of $4.50 a week from 35 hens in midwinter comes in right handy. This is what I get from 35 Rose-Comb Brown Leghorns kept in an open front house where they are allowed three square feet to each hen.

This is my feeding practice. In the morning I give them three sheaves of unthreshed wheat scattered all about the floor.

The straw makes a good litter and the birds get exercise threshing it. I also throw one quart of corn in the litter for the morning feed.

The noon feed is a moist, crumbly mash of cooked vegetables, wheat bran, and corn meal.

At four o'clock I feed two quarts of whole corn in the litter. Fresh water is supplied three times a day. Charcoal, grit, and cracked oyster shells are before them all the time.

I have a retail parcel-post business and sell an average of eight dozen eggs a week at from 50 to 60 cents a dozen during fall and winter, according to the market price of eggs. I make a charge of 15 cents a dozen more than the price of common eggs.

I got my customers by taking the names of fifty of the wealthiest families in our county-seat town (25,000 population) from the city telephone directory. I then sent a personal letter to the head of each of these families, making as strong a case as I could for my fresh, clean uniform-sized guaranteed eggs shipped by parcel post in an attractive package the same day they are laid.

I then compared the eggs I would send them with mixed lots of stale, dirty eggs which sometimes set in the stores near onions, kerosene, and salt fish for days or weeks.

My letters were written on business-like stationery having the name of my hennery and address neatly printed for a letterhead. The fifty letters brought me four customers.

I also inserted an advertisement of similar purport in our county (Lebanon County, Pennsylvania) paper and secured two more customers. These six customers take care of all the eggs I have to spare from my little flock of 35 hens.

The Best Market Guinea

THE right kind of a guinea fowl finds a ready market. Here are two letters commenting on the guinea as a substitute for game birds. The first is from a Detroit poultry house, and this is what their buyer says:

We are using a great many guinea fowl. The demand for young guineas weighing 1¼ to 2 pounds is very good, as they no doubt take the place of game since the game laws are so strict.

Now we would advise anyone raising them not to attempt to pick them, as they are one of the most difficult birds to pick. They must be picked dry—that is, without scalding—and if the skin is torn the least bit it makes them a No. 2 bird, and it will not bring as much a pound as the live bird.

Selling Assorted Guineas

Raisers of this fowl should be particular not to allow the bird to get to weigh over 2 pounds, and it must not be done by starving. The bird must be brought to a proper size and be well covered (in good condition of flesh). For instance, a bird that stands 6 or 7 inches high on the ground and weighs 2 pounds would be a cull and about worthless, while a bird standing 3½ to 4 inches and weighing 2 pounds and well covered will be a No. 1 bird.

If your readers want to dry-pick and pack, it is necessary to assort the sizes and pack in one or two dozen lots to the box, putting each weight by itself. For instance, a box must contain all 1¼ pounds, another 1½ pounds, and so on.

They must also be careful not to put a No. 2 in with a No. 1, as they will receive returns only for the poorest bird in the box. Hence, we think, to avoid all this trouble it would be better to ship alive and let the people who handle them do the dressing. A No. 1 young guinea alive will bring from 20 to 25 cents a pound.

Another thing,—shippers sometimes put old guineas with the young, thinking to fool the receiver, but invariably payments will be made for old guineas, about 8 to 9 cents a pound.

The next letter is from a wholesale dealer in West Washington Market, New York City:

The guinea hens should be killed by sticking a sharp knife into the mouth of the bird, severing the jugular vein. Care should be used to avoid much blood on the feathers. A great many people kill the guinea hen by simply wringing its neck, breaking the neck of the bird. The proper method, however, and the best method, would be to stick with a knife and kill in that manner. The guinea hen should under all circumstances be shipped with the feathers on.

During the past several years guineas have been becoming more popular with the hotel and restaurant trade, particularly in view of the fact that the hotel and restaurant men as a general rule are making the guinea hen take the place of game birds.

There is, however, very little demand for old guinea hens, and these old birds as a rule do not bring a high price. Old guinea hens at the present time (February 4th) are selling on the basis of about 50 cents a pair on our market.

Young guinea hens, to meet the best demand, should weigh from 1½ to 2 pounds each, and this size bird will always meet with a good demand, and no matter how plentiful they may be they rarely sell for less than 75 cents a pair, and at the present time they are bringing as high as $1 a pair. We have seen them selling even as high as $1.25 a pair.

Chickens Help to Fight the Grubworms

By A. T. Pfiel

LAST fall I tried to plant a fall garden, but everything I planted was eaten away in a few days by grubworms. I then declared war on them, hitched a horse to the 5-tooth hand cultivator, called the chickens, and went to work.

At first the chickens were rather shy, but soon understood why I had called them, and they followed close behind, gobbling up the worms as fast as they were uncovered.

I went over the same piece four times and repeated the process two weeks later. Very few grubworms are left and the garden is in fine condition for spring planting.

THE FAMOUS Little Gem HATCHERIES and BROODERS cost 40c. each. Over 300,000 in use. This lady hatched and raised 1,693 chicks in them last year. Hundreds more did as well. Send stamp for catalog. F. Grundy, Poultry Expt. Morrisonville, Ill.

Join World's Champions

13 more championships won by owners of Belle City hatching outfits. Makes

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21 Times World's Champion

Free Book "Hatching Facts" tells whole story. My $800 Gold Offers come with free Book—Money-Back Guaranty. Hatching outfit shown in actual colors. Jim Rohan, Pres.

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and Almanac for 1915 has over 200 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 962 Freeport, Ill.

150 EGG WILLIAM INCUBATOR NOW $4.95

Money Saving Incubator BOOK FREE

Greatest sensation in all incubator history. Best machine for those just starting. Has everything a perfect hatch needs. Hot air heat; double wafer regulator; thermometer; egg trays; egg tester; perfect lamp; roomy nursery. Hatches every hatchable egg. Sold on money back guarantee.

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Get our book and complete description of this and other William Incubator Bargains.

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Why So Many Chicks Die and How to Save Yours

Leg weakness, diarrhoea, gapes, etc., account for 50% of the great total loss of baby chicks. Most of these ailments can be avoided and corrected and the chicks saved by the timely use of scientific tonics and blood builders. So sure am I that

DR. HESS POULTRY PAN-A-CE-A

will put stamina and vigor in your chicks—help them ward off disease, help them grow and mature rapidly, that I have authorized my dealer in your town to supply you with enough for your flock; and if my Pan-a-ce-a doesn't do as I claim, return the empty packages and get your money back. Buy on that guarantee—you can't possibly lose.

1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail $2.50 (except in Canada and the far West). My Pan-a-ce-a is never peddled—it is sold only by reputable dealers whom you know. Write for my free poultry book.

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Fine Book tells about X-Ray heating principle. No other incubator has it. No other incubator can get it.

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Makes biggest hatches. Insures you against dead-in-shell chicks. Gives chicks healthiest start. Take no chances.

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Illustrates and describes fifteen special features. Ask for book 52. Freight Prepaid. No Agents. One Gal. to hatch

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I understand that you have made a record-breaking contract for many carloads of best steel fencing. Therefore, send me your new catalog free (with prices starting at 11c, instead of 13c per rod.)

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Freight paid in New England, New York, Penna., N.J. or Del. on 1, or 3 for 50 cents. Write for our free booklet showing 28 different cuts portable houses, coops, etc. E. C. YOUNG CO., 21 Depot Street, Randolph, Mass.

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E. J. Reefer, the poultry expert of 674 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

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This 135-Egg Incubator and Brooder shipped anywhere on 30 days' trial. No money down — no deposit.

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No other such open liberal offer as this, because no other outfit equals the UNITO. Incubator hot water; Brooder hot air. Both galvanized iron. Satisfaction guaranteed. We take all the risk—send for full details. Address

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Clip Your Horses and Mules Before the Spring Work Begins

They are healthier and render better service. When the heavy coat that holds the wet sweat and dirt is removed, they are more easily kept clean, look better—get more good from their feed and are better in every way. Insist on having

The Stewart
Ball Bearing
Clipping Machine

It turns easier, clips faster and closer and stays sharp longer than any other. Gears are cut from solid steel bar, enclosed, protected and run in oil; little friction, little wear. Has six feet of new style easy running flexible shaft and the celebrated Stewart single tension clipping head. **Get one from your dealer,** or send to us $2.00 and we will ship C. O. D. for balance. Money and shipping charges back if you are not more than satisfied.

PRICE $7.50

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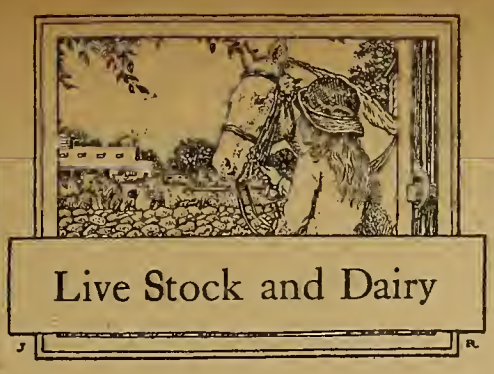

Live Stock and Dairy

Who Applies the Test?

ALL the problems connected with tuberculosis in cattle were by no means solved when the tuberculin test was discovered. Such matters as the proper compensation for condemned cattle and the accurate use of the tuberculin test have been two of the biggest stumbling blocks.

Wisconsin has made an unusually careful study of these things.

There the owner stands one fourth the loss for condemned cattle, and the State three fourths. The average appraisal value of cows condemned of late years has been about $50.

In spite of the alleged advantages of having trained veterinarians do all of the tuberculin-testing work, the application of the tuberculin test in Wisconsin is not confined to veterinarians. This is due partly to saving expense, but chiefly to encourage the widest possible use of the test.

The records of some States show that the error in making tuberculin tests is only from 2 to 5 per cent, but Wisconsin figures show that the percentage of animals killed by mistake because of inaccurate testing has averaged around 15 per cent.

Only about one third of the testers, both professional and non-professional, have perfect records for accuracy.

A compulsory tuberculin-testing law passed in 1910 became so unpopular that it was repealed six months later. State authorities now are not so much concerned in the number of tubercular animals in the State as in the number of infected herds.

Way to Cure Summer Sores

By Dr. A. S. Alexander

"WE HAVE a mule," writes a Virginia reader, "that has what the doctor calls a wart on her right hind leg on the ankle bone. It stays raw, and bleeds if touched. It has been there about sixteen months, and if cut off, which has been done twice, it comes back. The wart is the size of a hen's egg."

The growth described is not an ordinary wart, but is a summer sore. It is a most troublesome growth to cure, and should it prove to be cancerous it may not prove curable. If you are very careful the following treatment may be given, but it is best to have it done by a veterinarian:

Cleanse the sore and dry it thoroughly. Smear lard about it freely. Then rub in a *very little* powdered yellow sulphuret of arsenic. Tie the mule up so that she cannot lie down or bite the sore. Remove the thick scab which the application will form, as soon as it can be loosened.

When it has been removed, dust the wound once daily with iodoform powder; then coat with flexible collodion, and when dry cover the sore with a layer of absorbent cotton, to be kept in place by means of a clean bandage.

The use of too much arsenic is likely to cause a large and deep slough.

Branding Fluids Unsuccessful

FROM time to time various improvements over the method of branding cattle and horses with an iron have been suggested, and one of the alleged improvements was branding with a fluid made up of strong chemicals. Of the use of such fluids for branding, H. H. Simpson of the New Mexico Station has the following to say:

The Arizona Experiment Station at Tucson conducted some experiments with branding fluids and finally concluded that they were a failure. Some of them did not leave a brand that would stay, and those that did had the same objection as branding by fire. The difficulty was to get a fluid that would give a good brand that could always be read and at the same time not injure the hide for tanning.

Most of the experiments showed that the branding fluid would not make a permanent mark, as the hairs grew back on certain parts of it. After several attempts they finally got the brand permanent, but it injured the hide as much as a hot iron. The greatest objection of all was that after the fluid was put on, the animals rubbed against one another and smeared the liquid all over them. There was no advantage in the saving of time, as it took just as long, or longer, than by the fire method. No attempts in past years have been made to push the matter of branding with fluids, and I certainly would not recommend their use.

The Survival of the Fittest

TRIED IN THE FURNACE OF competition and subjected to the test of years of practical use on nearly 2,000,000 farms the world over, the De Laval has proved its overwhelming superiority to all other cream separators.

TWENTY YEARS AGO THERE were as many makes of factory as of farm separators, but for the past ten years the De Laval has had this field almost to itself, 98 per cent of the cream separators in use by creamerymen and market milk dealers today being of the De Laval make.

IT HAS TAKEN THE INEXperienced farmer a little longer to sort the true from the untrue, the wheat from the chaff, in the maze of conflictory catalog and local dealer separator claims, but year by year the ever-increasing proportion of farm separator buyers is reaching the same conclusion as the creameryman—that the De Laval is the only cream separator they can afford to buy or use.

MANY OTHER CREAM SEPAarators have come into the limelight of publicity for a few short months or a few short years, claiming to be "as good as" or "cheaper" than the De Laval, but their users have sooner or later found them lacking in some one respect or another, and even where a few have seemingly done well their users have come to learn that the De Laval was a still better machine.

THE UNFIT OR THE LESS FIT cannot possibly survive for long in separators or anything else. Think of all the separators you used to see advertised so extravagantly in your favorite farm papers. Where are they now? Why do you seldom, if at all, see their names mentioned? Simply because the fittest must survive and the others must fall out of the race.

THE DE LAVAL HAS TRIumphed over all other separators, and its supremacy is now almost as firmly established in farm as in factory separators because its separating system, design and construction are essentially different from and superior to other separators.

A De Laval catalog to be had for the asking explains and illustrates these differences. A De Laval machine, to be had on test or trial from the nearest local De Laval agent, does so better still. If you don't know the nearest local agent, simply write the nearest De Laval main office as below.

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14 CENTS A ROD UP.
Lawn Fence 6c. a foot. Barbed Wire $1.45 per 80-rod Spool.
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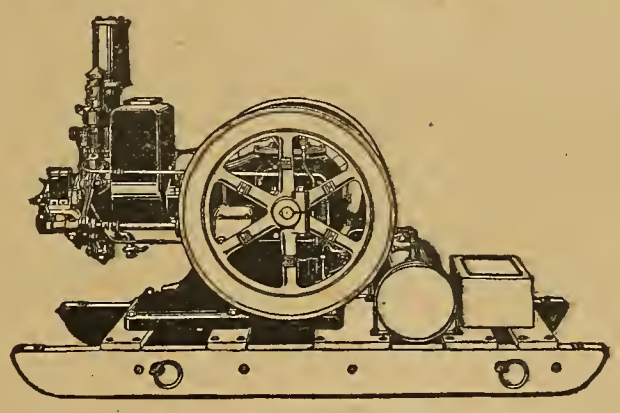
International Harvester Oil Engines—Mogul—Titan



DO you want a really cheap engine—that is, one that does the most work at the least expense? If you do, don't miss a single chance to compare I H C engines with any others you see or hear about.

Take time enough to buy your engine. Learn enough about I H C engines so that you can make comparisons of weight distribution, valve sizes, fuel systems, bearing materials and sizes, equipment, oiling systems, safety devices, etc.

When you know these things you know engines. Then you can buy surely, safely, and easily, the really cheap engine you need—an I H C engine of the right size and style for your work.

I H C oil engines—Mogul and Titan—are made in all sizes from 1 to 50-horse power and in every approved style—stationary, skidded, portable, tank and hopper cooled, vertical and horizontal. They operate on gasoline, kerosene and even lower grade oils, and on gas or alcohol.

When you buy an I H C engine, the engine is not all you get for your money. Our service is worth knowing about. See the local dealer who handles I H C engines or write us for all information.

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My 1915 Book Free
Here It Is-Read! Act!

My better than ever, bigger than ever, book of bargains for 1915 and price-reducing, sliding-scale schedules on gasoline engines and cream separators printed in four colors with special gasoline engine, manure spreader, cream separator, auto truck, elevator, carpet and rugs and vehicle color work; hundreds of illustrations of farm and household necessities. This great book will save you money. You are sure to buy something within the next few weeks on which we can save you money. Get my prices and learn all about my 1915 price-reducing, sliding-scale schedule before you spend another dollar for anything for the farm or household. A postal addressed to me now will bring this big book to you by the next mail, postpaid.

Galloway's Sanitary Separator

This new Galloway Sanitary perfect skimming cream separator is made so good in our own factories that I will send it anywhere in the United States without an expert to set it up, to any inexperienced user for 90-day free trial to test against any make or kind that even sells for twice as much and will let the user be the judge. It's the most modern—the most sanitary—the most scientific—the cleanest skimmer—the most beautiful in design of any cream separator made today and I have seen them all. I want you to know all about this wonderful separator that is sweeping the field before it. Investigate this before you buy.

$42.50 For 500 Lbs. Capacity

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More Power For Less Money 6 H.P. $98.75

The New Galloway Masterpiece Big Six Horse Power Gasoline Engine at our new low price is positively the power sensation of 1915. The most engine ever offered for the money. My 1915 sliding-scale, price-reducing schedule still further reduces the above price according to the number sold.

This new design, big 6 H.P. engine built from the highest quality of material, mechanically perfect in design, smooth, easy running and well balanced, absolutely supreme in power, design and simplicity; not overrated nor light weight but large bore and long stroke, plenty of weight, low speeded, built for long, hard, continuous service; made in our own great factory by the thousands on automatic machinery, all the parts standardized alike, sold to you direct from factory.

Galloway Spreaders From $64.75 Up

Let me tell you about its special patented features; about its light, draft, its all steel gear and how it is built of heavy channel steel, trussed like a steel bridge, superior in every way to the new-fangled freaks of heavy draft that eat you up for repairs.

The above money-saving catalog fully describes the complete line of Galloway Specialties and will be mailed to you the day we receive your request.

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SEEDS Big Bargain 20 Packets 10c

Generous packets of tested seeds from regular stock. Over 600,000 of these mammoth collections sold. We make this surprising offer to get you to try our quality seeds and see our low prices.

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Giant Thick Leaf Spinach
Cress or Peppergrass
Mammoth Sunflower
Elite Dwarf Nasturtiums
Triple Curled Parsley

Money Saving Catalog and coupon for 10c—good on 25c order—*free*. Number of collections limited—*send for yours today*.

J. J. BELL SEED COMPANY, Depoolt, N. Y.

300,000 Apple Trees
3½c. each
"Good Fruit and How to Grow It" FREE

This is an 80-page book of valuable information about soils, how and where to plant, trim, and grow all kinds of fruit; how and when to spray, and the cost of planting and maintaining an orchard. Also complete description of all varieties of Fruits, Ornamental Trees, Roses and Shrubs. Bargains in Home Garden Collections. 98c.—Agents ask $3.00 for them. Your name on a Post Card brings this FREE BOOK. Get It Now. REILLY BROS. NURSERIES, 343 Reilly Road, Dansville, N.Y.

"We Spray to Save Money"

The Experience of One Farmer in His Ohio Orchard

By George W. Brown

Every season we whitewash the trunks of the trees

IF SPRAYING is adopted our apple orchards will stay; failure to spray means a deplorable loss to the farm, and denial of fruit to our household.

Which shall it be?

We will admit that it is a hard fight, this war against blight, fungus, scale, canker, and codling moth. For fifteen years we have been in the fight here on our Ohio farm. Ours is just a common, every-day farm orchard, but it is worth while.

A section of our orchard shows in the large picture. The equipment, while not expensive, does the work, and results are what we are after. We, the boy and I, spray in the dormant stage with lime-sulphur solution, 6 gallons of lime-sulphur to 50 gallons of water. This treats 12 trees at a cost of 8 cents a tree. The reason we can spray so cheaply is because the trees are closely pruned and no unnecessary brush is left.

We have some scale pests, but are chiefly after fungus at this time and spray just as the buds begin to burst.

The trunks are treated every season with thick whitewash and flowers of sulphur at a cost of 3 cents a tree. This treatment makes the trunks smooth by filling up cracks in the bark where codling worms winter over so often.

Later we spray for codling-moth attacks, this time with 3 pounds of arsenate of lead added to 50 gallons of water and 1 gallon lime-sulphur solution. This spraying costs 3 cents a tree. The proper and most effective time to do this second spraying is when the calyxes on the forming apples are open and erect.

Just at this period the first brood of codling moth enters the small blossoms where it lays eggs which hatch into apple worms. Poison lodged there gets in its work on the worm in its infancy.

Two weeks later the second brood of codling moth appears. The moth cannot get into the calyx, for it is closed; but the moth deposits its egg upon the outside rind. A spray at this stage poisons these young worms and prevents further damage. Two cents a tree is the usual cost of this last spraying.

This makes a total cost of 16 cents a tree for spraying solutions and labor; but, pshaw, what does a little labor amount to when we can keep the orchard healthy, having it bear big red apples that will go into the best of company?

We are sure to spray for codling moth when the calyxes are open and erect

Now you are thinking about big red Western apples, aren't you? Well, they are mighty good company; but, honestly, we picked apples last season from our Pewaukee tree which sold faster, three for a dime, than Western-grown Jonathans at the same price, alongside, and the tree had 14 bushels of such fruit on its loaded boughs.

Wood First, Then Fruit

By T. Greiner

QUITE often people who have planted apple or some other fruit trees chafe under what they believe is undue delay of the trees in producing fruit. Standard apple trees especially keep the planters waiting for fruit sometimes for several years, up to a dozen or more.

Our first aim in handling young trees usually, if not always, is and should be to produce a strong growth of wood on which a full fruit crop can be produced, and if we give good cultivation and abundant food, the development of the tree naturally is in the direction of wood growth at the expense of fruit production.

But when we have the growth that we want, then our aim must be to direct the energies of the tree into the productive channel.

There are several ways open for us to do that.

One is by root-pruning. One of several thrifty fifteen-year-old Talman Sweet apple trees which had been partially uprooted by a gale, and made to lean at an angle of about 45 degrees, bore us heavy crops right along, beginning with the following year, while, on the other hand, the undisturbed trees continued barren for a number of years more.

Another way is by summer pruning. Remove a portion of the new growth in June.

This will check wood growth, and throw the strength of the tree in the formation of fruit buds.

The third way is by reducing the supply of nitrogenous food. Withhold all stable manure and all fertilizers containing nitrogen. Plow deep and close to the trees. A little root mutilation will do no harm in cases of thrifty trees and tardy bearing.

Then seed the orchard to grass, or any crop that will draw heavily on the excessive nitrogen supply of the soil, and leave the orchard in sod until your purpose is accomplished.

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E

Ways to Make Manure Keep

By John B. Abbott

FOR best results, manure should be hauled to the fields and spread on the land as soon as it is made in order to avoid loss, but in practice this method is not always possible. We must nevertheless recognize that manure when allowed to accumulate around the barn without any special care is subject to heavy losses, particularly of nitrogen, its most valuable constituent.

Spend One Dollar; Save Two

Various schemes have been proposed for preventing this loss, some of them practical and some otherwise. Prominent among such schemes have been various types of concrete tanks or pits; and there is much to say in favor of these plans. However, it is not wise to go to any great expense for the construction of any kind of a manure storage pit.

Expensive pits for the storage of manure may be regarded as the marks of the wealthy "play farmer" who is spending money on his farm instead of making money from it, or of an ill-advised farmer intent on conservation at any cost.

The practical farmer knows perfectly well that it is not good business practice to spend two dollars to save one, but unfortunately he does not always seem to realize that it is a good business to spend one dollar to save two. If he did there would be less manure wasted.

Manure is a bulky commodity of comparatively low value, and the margin of profit in using it is small on account of the heavy labor expense in handling it. The profit may be wiped out entirely if interest and depreciation charges on an unnecessarily expensive equipment be added to the labor expense. The greatest profit lies in hitting the happy medium between conservation at too great cost and cheapness of handling involving too great waste.

Pack Well to Keep the Air Out

When the various ways in which manure may suffer loss are understood, the requirements for cutting down these losses are seen to be simple. Manure is subject to mechanical loss from being scattered around over the barnyard by chickens, pigs, and larger stock. To overcome this loss the manure must be confined in a definite space by some sort of retaining walls. Boards or planks will do, and have at least two advantages over permanent cement walls. Their first cost is less, and they may be moved. The disadvantage of wood construction is the need of repair.

Manure is also subject to loss through leaching away of its soluble portion. This loss may be overcome to a large extent by the use of plenty of dry, absorbent bedding, and still further by making and storing the manure on a concrete floor with raised edges or made slightly cupped in the center. At the same time the bedding greatly increases the amount of manure made and furnishes a cheap and satisfactory method of getting straw back to the land.

Manure is also subject to loss as a result of bacterial and chemical transformation into ammonia and carbon dioxide, both of which are gases and escape into the air. These losses are harder to control than the others, but can be greatly reduced by keeping the air out of the inside of the manure pile. Just as closing the draft to a stove holds the fire in check, so shutting the air out of the manure pile checks the formation of gases. Air can be excluded most effectually by packing the manure down, and keeping it so wet that the spaces in it are filled with water instead of air.

Moisture Won't Hurt the Manure

In the case of animals on a cement feeding floor, or in box stalls, the storage of manure takes care of itself. All that is necessary is to use bedding enough to keep the animals dry and clean and let the manure accumulate underfoot. In the case of horse stalls or dairy barns which must be cleaned daily the cement floor is still necessary, or at least advisable, in order to prevent losses while the manure is being made, but further storage facilities are required.

Packing manure in a pile may be accomplished by occasional trampling or by allowing a few hogs to have access to the pile. A roof is not necessary, as rain will do good by keeping the manure damp and thus check any tendency to heat and produce gas.

The cost of construction of a serviceable manure-pile floor from a 1-2½-5 mixture (1 part Portland cement, 2½ parts clean sharp sand, and 5 parts gravel or broken stone) with regular farm labor need not exceed 8 cents a square foot, and in some cases it can be done for less. A nice finish is not required. A sufficiently smooth surface can be produced with an old broom. The only requirement is that the concrete shall be fairly water-tight. To that end it should be mixed quite wet, and it would be better if surfaced with a richer mixture. A floor 8 feet wide by 25 feet long can be constructed for about $15, and the cost of the boards for the sides would be small since any rough lumber will do. The saving of nitrogen alone may be counted on to be at least 60 cents a ton of manure over what would be saved on an earth floor.

The construction of such a pit is a good investment for anyone who has to store manure, but to invest a large amount of money in a manure pit is not good farm practice under any conditions. Heavy expenditure for this purpose is not warranted simply because it is not necessary, and the money saved may be put to some more productive use.

The Champion Corn Raiser of the South

What Crimson Clover Needs

CRIMSON CLOVER will succeed most seasons in Kentucky, says Kinney of that State. And it is of such value as a cover and a green manure crop that the farmers of Kentucky should not pass it by. It is like alfalfa in that it asks for exactly the right conditions before it will do well.

Here are a few of the leading requirements: Plenty of moisture at seeding time; plant alone in the field under most conditions; seed carefully, making sure that the seed is not in too deeply and yet is covered; sow in Kentucky by the middle of August; do not pasture too late in the fall. Besides these things the crop will demand good soil, well drained.

Four Alfalfa Requirements

By Ellsworth Brown

NINE years ago I was seized with a strong desire to raise alfalfa. This was in Pennsylvania. After reading the "Method of Procedure" which brought success to others I thought it an easy matter to secure a crop, so I decided to try it on a small scale. I followed the plans described, sent to Washington, D. C., for "bacterial culture," put on 500 pounds of burnt lime to the acre, sowed the seed in July, and waited for it to grow into real money. It grew well that fall, and covered the ground through the winter. The next spring it turned yellow and died. My loss was $50 or more. I blamed the failure on the culture and the small amount of lime applied.

I Didn't Succeed, So Tried Again

In 1910 I tried it again, putting in three fourths of an acre. I plowed the ground in April, top-dressed it with good manure, gave the piece frequent harrowings through April, May, and June, and put on one ton of burnt lime. I sent away for inoculating soil taken from an old alfalfa field. I paid 75 cents a hundred pounds for it besides the freight. This soil was scattered over the piece by hand. Next I applied phosphate fertilizer, and in July sowed the seed. This piece caught well, and we have mowed it every year since.

In 1911 another piece of 2¼ acres was added to this, making about 3 acres in both pieces. I followed the same plan in putting in this piece. We could have spread the inoculating soil over the piece far easier with a manure spreader having a lime attachment; spreading by hand is very tedious.

Next I applied 2 tons of ground limestone to the acre. Then I procured 300 pounds of nitrate of soda, 300 pounds of bone meal, and 600 pounds of 0-10-16 fertilizer, mixed them together and sowed this evenly over the piece and harrowed thoroughly. Then in July I sowed 25 pounds of alfalfa to the acre. It grew well, and last season I mowed it three times and got 15 loads of nice alfalfa from the 3 acres.

You will notice that it is a great deal of trouble to get the crop started, but it is well worth the efforts put forth, as alfalfa is worth nearly as much as bran, ton for ton. To be successful in getting the crop started four things must be complied with: (1) Soil free from weeds or weed seeds; (2) soil made sweet with lime; (3) soil well under-drained; and (4) soil containing organic matter and supplemented with nitrogen, phosphorus, and potash.

HIGH-GRADE red clover seed is deep purple in color. Alsike seed is very dark green, and white clover seed is orange. A faded color indicates old, weathered, or dirty seed.

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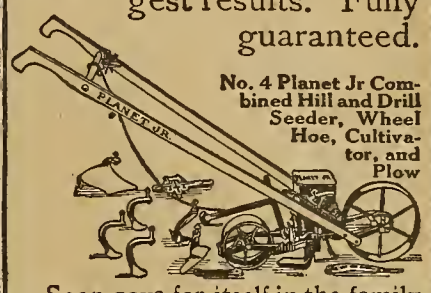

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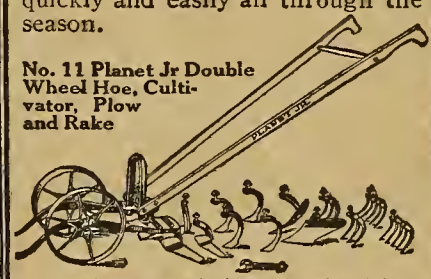

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The two large gears, which lift the load straight up, are each independent of the other and each is driven by its own pinion on the main shaft and must take its half of the load at all times. The Auto-oiled Aermotor, with its duplicate gears and two pitmen lifting the load straight up, is unbreakable.

Every 8-foot mill is tested under a pumping load of 3000 pounds on the pump rod. For the larger sizes the load is proportionately greater. We know that every one of these windmills is unbreakable. We venture the assertion that this is the most nearly perfect, best made, best tested, best oiled, most nearly perpetual, automatic and self-sufficient of any machine of any kind ever made for farm work and the most nearly fool-proof. There is no friction on any part of the furling device when the mill is running and very little when the wheel is furled. A small child can easily furl this windmill or an automatic regulator can take care of it. One of these mills has been furled 10,000 times in one day by a man on our premises—more times than it would ordinarily be furled in 30 years of service. A band brake, of the automobile type, is used, and it always holds.

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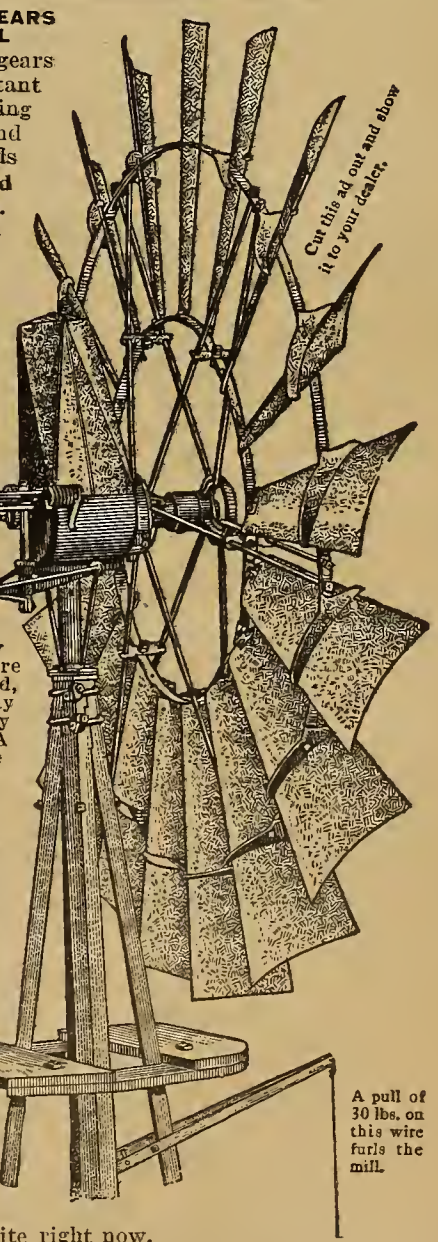


A pull of 30 lbs. on this wire furls the mill.

If interested, write **Aermotor Co.,** 1146 So. Campbell Avenue, Chicago. Write right now.

When Lydia Rose Up

Then, and Not Till Then Did She Find a New Husband and a New House

By Helen Peck

LYDIA PATTERSON started so violently at sight of her husband's companion that the needle inside the stocking she was darning stabbed her finger.

"That man here again!" she muttered as she impatiently wiped away the fast-recurring red drop. "What's he got now, I'd like to know?"

Her work slipped from suddenly idle hands, and she watched the two men walking about before the great red barns across the road, her husband listening with evident eagerness to the speech of a dapper young man who pointed here and there with eloquent fingers.

As she watched, a wave of determination swept across her face, hardening the lines about the brow and compressing the lips. The mending fell forgotten to the floor as she rose with swift resolution aud turned to the ladder-like stairway which led from the coruer of the sitting-room to regions above. She went with the confident air of the perfect housekeeper who knew she could put her finger on anything in the house. She stood on tiptoe and drew from under a folded comfortable on the top shelf a black tin box.

The key was extracted from another hiding place, and she sat down on the edge of the bed to opeu it. She turned its contents over aud over. She pored over little yellow books. She wrote lines of figures on a paper and laboriously added them. She gazed finally upon the substantial total with wide eyes.

"All that?" she muttered. "All that? But it's been years."

The little books dropped in a heap on the bed while the woman sat and thought and thought.

"Liddy! Why, Liddy! Is an'thing the matter? Ain't we going to have any supper t'night?"

Her husband's anxious voice roused her at last from her long reverie. She gathered the scattered papers into a bundle and carried them in her apron to the sitting-room. Matthew Patterson looked upon her with anxiety.

"You ain't sick, are you, Liddy? I don't know's I ever knew supper not to be got, before."

"No, Matthew, I'm not sick. I've been thinking. It won't take a minute to get supper. It's mostly ready now."

They ate and drank silently. After a long pause, which seemed somehow big with portent, the woman gave utterance to the words which for the last two hours had been beating their hard way to speech.

"I saw that city man round with you again this afternoon, Matthew. What's he here for uow?"

The man with the forest of grayish hair aud bushy eyebrows leaned back in his chair with the sense of comfort aud well-being induced by a satisfying meal. It had been a good supper, even though somewhat tardy.

"Why, you know I didn't finish out that job we begun last year, carrying water from the crick to the baru, and he's come to see 'bout going ou with it. And while we's about it we thought t'would be a good thing to put down concrete floors in the cattle barn, and a few little things like that. Say, Liddy! He's got some contraptions in that book of his that make you sit up and take notice, now I tell you. There's hay stowers and grain threshers and feed mixers and I do' know what all. You wouldn't b'leeve what you can do with m'chinery uow'days? He left me a caterlogue. You jest read it over. It'll make your eyes stick out, I can tell you."

Lydia Patterson pushed back her chair with a sniff and turned to the kitchen. She moved about with swiftly silent steps until there remained no trace of the finished meal. She gathered her laden apron from the couch in the corner and joined her husband at the table in the middle of the sitting-room.

"Matthew," she spoke with crisp decision, "Matthew, lay down your paper a minute and pay 'tention to me. I want you should hear what I've got to say."

The man looked over his spectacles with a startled air. Her tone was strange, and the expression of her face quite foreign to her usual placid calm. He pulled the glasses slowly from before his eyes and watched in bewildered sileuce as she sorted and spread out the bankbooks and figure-covered papers. She looked up suddenly and threw a question into his face.

"Matthew, do you know how long it is we've been married?"

He put the spectacles on again and looked anxiously into steady eyes that blazed with new-kindled fires. She looked queer enough, but not sick, as he could see.

"Why—why, yes, Liddy. I guess so. A matter of twenty-odd years, ain't it?"

"Yes, Matthew. It's twenty-five years, come summer. When we first come here to live you said I was to have all I could make out the poultry. That's so, ain't it, Matthew?"

"Why, yes. O' course it is, Liddy. Ain't you had it? It's all there. What you acting so queer about?"

"'There'! Yes, it's there, Matthew Patterson," she burst out with a sudden shrillness that made him jump. "But much good it's ever done me, hasn't it?"

"Why—why, Liddy! What's the matter of you? It's yours. Ain't your name on the bankbooks?"

"Yes, it's there all right, and it might just as well be in—in Tunket. What good is it, I'd like to know? What good's it ever done me? I bought one black silk dress ten years ago, and it's been made over five times. And me runnin' down cellar for ev'ry drop of milk and scrap of butter. And haviu' to lug water to wash with fr'm the well and havin' to empty washtubs that 'most break my back, while you and that man spend your time fixin' up schemes to make things nice for the cattle. Matthew Patterson, many's the time I've wisht I was a cow!"

Her voice broke with a queer little choke. The man listened with open-mouthed amazement as the flood of speech rolled on again.

"What would you have said if I'd have spent that money that was mine, I'd like to know. But I'm goin' to now. I've been figurin' up. I've made about one hundred dollars a year, sometimes more, sometimes less, for twenty-four years. Now that's a whole lot of money, and it's goin' to work for me now. I've worked for it, years enough. I'm goin' to draw me out five hundred dollars, and go to the city and spend it. I'm goin' to Cousin Lucy's and get her to show me all the newfangled things there is for doin' work—work for folks, not cattle, and I'm goin' to have ev'ry single one of 'em. Aud if it takes more than that, you've got to take out some more and send it to me. And I'm goin' to have me a new dress that ain't black. I don't care whether it's serviceable or not—and a chain. Matthew Patterson, I'm goin' to buy me a gold chain to hang round my neck. I've wanted one ever sence I was born. And I guess that chicken money is mine by right, ain't it, Matthew Patterson? What you got to say about it?"

"Yes. Why, yes, Liddy. O' course. I—I—"

Matthew Patterson had never heard of Medusa, but if the little straggles of iron-gray hair about his wife's temples had turned suddenly to writhing serpents he could not have looked more frightened. Twenty-four years' worth of pent-up speech is a good deal to listen to at one time. He made a pretense of turning again to the perusal of the "County News," but stole many a glance toward the strangely altered face across the table.

"When was you thinkin' of goin', Liddy?" he asked timidly after many abortive attempts at speech.

"Just as soon's I can get you baked up. Maybe Sat'd'y afternoon. The sooner the better, I guess."

She pulled out her presents for him and piled them in his excited arms

"How long was you thinkin' of bein' gone, Liddy? 'Twill be sort o' lonely."

The question was piteous, the tone that of someone who feels the solid rock slipping, slipping from beneath his feet. Lydia Patterson looked up quickly. With the sight of his bewilderment was born in her woman's soul the sense of power.

"Oh, I do' know," she answered carelessly. "Maybe a fortnight, maybe more. Depends on how I like the city."

Lydia was true to her word. A letter to Cousin Lucy was dispatched the next day, and she set about preparation for her journey.

"Well, good-by, Matthew. There's plenty to eat in the house." The woman, sitting unusually erect, spoke as the buggy drew iu sight of the mustard-colored station. The drive from the farm to the village had been a silent one, each shunning the speech which would have said too little, or too much.

"Liddy, ain't you goin' to kiss me good-by?"

The question brought au added color to the faded cheeks, pink now with excitement.

"Why, of course, Matthew."

The man held tightly to a cotton-gloved hand, and bent to press a fumbling kiss upon her upturned face.

Matthew Patterson drove slowly home. The work he did before suppertime was aimless and unprofitable. From the well to the teakettle, up and down, back and forth he passed, gathering together viands for his solitary repast.

"Gosh all hemlocks!" he muttercd as he seated himself at last. "I'm tuckered. Who'd have believed it took so many steps to get a meal of victuals? Ev'rything ready too."

He meditated upon the subject over his pipe in the sitting-room which seemed so oddly empty without the delicately faded cheek across the table.

"By jinks," he slapped his knee suddenly and spoke aloud, "I'll do it! Bet she'll be good and surprised. Let's see now."

He found a paper and stubby pencil in the desk and began to write.

"Water, first thing," he muttered, "in the sink and set tubs. ('Broke her back!') And a leanto out back to keep things out the cellar. Maybe there won't be time to finish things, suppose she comes back pretty quick, but the beginnin' would be somethin'. Say—" he talked to himself—"I bet you we could have a bathroom. That feller said a windmill'd do the trick for the barn. ('Wisht she was a cow!') Gosh-a-mighty! I can't 'stan' that!"

All through the soft Sabbath quiet of the following day he measured aud figured, and Monday morning found his plans ripe for action. He gave to his regular work that morning what he called "a lick and a promise." He drove at an unusually rapid rate into the village, interviewed the local plumber, telegraphed a windmill constructor, communicated with the electric-light company in the next town, called upon the village telephone concern, corralled a carpenter, stopped at the lumber yard ou his way home, arriving finally at his deserted abode, excited and happy. It was a dull season and the various workmen had been appealed to by the offer of a bonus for a quick job. They fell to work with a will.

The brown earth yawned for pipe lines. Impeding branches fell to make way for telephone and electric-light wires. The farm hummed with the voices of busy men, the master of whom strode about with the mien of a conquerer. The words that sang iu his brain from morning to night were always the same. "Won't she be tickled?—bathroom and all!"

The mail brought him almost daily word from Lydia. She told him of the wonderful things she was seeing aud doing. She spoke of the marvels of labor-saving devices which she was purchasing with lavish hand. They began arriving shortly, boxes and barrels, large and small. "Don't you open a thing till I come," she wrote. "I want to show them to you myself." "I've got lots to tell you, Matthew," the last letter ended, "and I'm coming home Monday."

The remainder of that week saw a regular frenzy of accomplishment on the farm.

"Well, Liddy, I'm glad to see you," was all the greeting that found utterance as she clambered into the buggy beside him on Monday afternoon; but the gleam in the eyes below the bushy gray brows spoke long sentences of welcome.

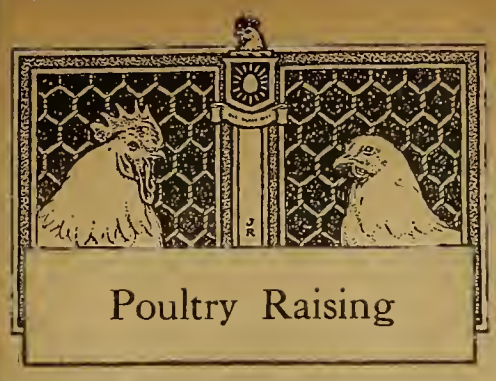
"Well, Matthew, I'm bound to say I'm glad to get back. Cousin Lucy was just as kind as ever she could be, but I did get awful sick of bein' waited on. True's I live, I haven't done a hand's turn since I've been gone. And I never want to see another bit of baker's bread long as I live."

They breasted a little hill, and the great arms of the new mill waved a slow welcome to their mistress.

"Why, Matthew Patterson," she exclaimed, "I see you've got your windmill! I s'pose the cows are having a fine time drinkin' runnin' water and bein' washed down on a marble floor."

[CONTINUED ON PAGE 21]

E-W



For My Chicks, Safety First

By L. B. Robbins

DID you ever fill up a hover with nice lively chicks and pat yourself on the back at your success as a poultryman when, presto! you went the rounds about suudown to inspect your batch of youngsters aud found one or a dozen or perhaps the whole family huddled together in a far-away corner, chilled to the marrow and scarcely a peep left among them? I have.

Iu fact, I once found it necessary to leave a hoverful of newly hatched chicks for nearly four hours. I remember the temperature was somewhat below freezing, and when I returned—well, there's a mound of earth out back of my hen house that tells the tale.

I saved two out of fifty.

Then I sat down and commenced to think, and this was the result:

I procured from one of the stores a lot of corrugated strawboard and cut it into strips about 15 inches wide. Then I pieced these strips together until they made a piece long enough to lap about one and a half times around the hover. Then wheu the next hatch came off I was ready for them.

Placing the proper number of youngsters under each hover, I lapped the strip of board around each oue so as to leave about two inches space between it and the felt.

The strawboard being circular in form, there were of course no corners for huddling; the distance to the hover was the same at all points.

The next morning this space was increased by a couple of inches or so. By this gradual widening of the circle each morning the chicks became self-educated, so to speak, and I never lost a chick from huddling after adopting that method.

The idea of course is better adapted to a circular hover than one containing corners.

EDITOR'S NOTE—A handy substitute for the strawboard is a convenient length of small mesh chicken wire—a foot wide will answer the purpose.

Don't Have Broodies—That's All

By D. D. Farnsworth

MY EXPERIENCE in practical poultry work is based on the overalls end of the game as well as on poultry theory. I have made small flocks pay over $3 a bird net profit, and large flocks over half that amount.

The way, humane or otherwise, to cure broody hens is by not having them.

Hens do not become broody instantaneously. It is a process requiring from several days to two or three weeks, depending on the hen, the season, the feed, and the surroundings.

Hens differ in their disposition as much as do featherless bipeds, and a blind person (mentally bliud, I mean, and hence careless of his use of physical eyes) has no business taking care of poultry.

There are many little tricks by which biddy tells the observant keeper that her thoughts are incliniug toward family cares. Different hens have different tricks, and so there are many hints that can be gathered only by one who knows the individuals.

Don't Let the Hen Cluck

A hen approaching broodiness is apt to slacken her yield [My experience has been that many hens lay oftener as the broody period approaches.—EDITOR], to remain longer on the nest than is usual for her, to be a bit cross on the nest, to resent the attentions of the male somewhat, but the main signs are to cluck and remain on the nest at night.

Broodiness is confined to no particular season. I know of two White Rock pullets that as I write in early January are broody, and they were late-hatched birds at that.

The thing to do is to keep your eyes and ears open to avoid certain lines of feeding at the times when broodiness is most apt to come on the flock in general, and to make instant use of the first warnings as guides to preventive measures.

Never let a hen cluck in her remarks a second day, nor remain on the nest a single night.

E

There are three things that can and should be done the minute symptoms of broodiness develop. One is to move her to different quarters—as different as possible. In obstinate cases a sort of cage suspended to the side of the building and with no floor but half-inch mesh wire and no beddiug may be what is needed.

The second thing is to avoid fat foods like corn or meat scraps. Give lean meat of some sort, better fresh if you can, with some sort of fresh greens like cabbage, apple, turuips, sprouted oats, and the like. The idea is to give a food that will stimulate the mating instinct and tend to keep the ovaries active.

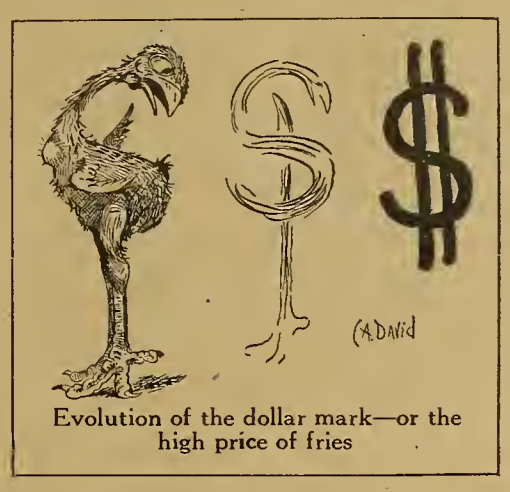
The third step is to place biddy in a pen with a strange male, a cockerel that is young and active. One such male will answer for several broody hens, though the fewer hens the better, and the quicker the results.

These three things are all I have ever found necessary, even in cases which have, for some reason, been allowed to get pretty well started.

There is one thing to be kept in mind, and that is that the older the hen the harder she is to break as a rule, and it is sometimes necessary to move her more than once.

No pullet should be kept to the hen age unless she is selected as a breeder. Hens lay less in their second year and take up just as much room and eat just as much; and the practical thing is to get rid of all pullets as they approach the molt unless selected as breeders, and the breeders should not be allowed to brood if you have a machine.

No breeder should be kept more than three years except in rare instances.



Evolution of the dollar mark—or the high price of fries

Ten-Second Topics

Farm News From Various Sources for the Person Whose Time is Money

ITALY cans tomatoes with less water than we use. These tomatoes have pushed us out of the English market aud are winning favor right here at home.

IN JAPAN the average price of rice land is 16⅔ cents per square yard, or at the rate of $800 an acre.

RUSSIA is the only nation in the European war that has no exhibit at the Panama-Pacific Exposition.

GERMANY has about 6,000 distilleries for the manufacture of alcohol from potatoes. Most of them are on farms.

THE exhibit of the German Government at the Panama-Pacific Exposition occupies nearly an acre of floor space.

GERMAN EAST AFRICA is nearly twice as large as Germany, but has only an eighth as many people, mostly natives.

DANISH farmers are killing their breeding sows and suckling pigs. Cause, corn selling for $3.15 a hundredweight.

HANG a lantern from the ridge pole inside of a small hog house to warm it during farrowing time. It lights it too.

MISTLETOE is a pest to some trees, and does uot trouble others at all. Who has had experience with it? Ladies, perhaps?

OVER 100 mongrel stallions were retired from service in Wisconsin in 1913. Half of the stallions are now pure-bred.

THE Standard Oil Company has discovered oil in China. The first well, which is 400 feet deep, yields 2,000 barrels a day.

A STRAIN of polled Holsteins is being developed by a Pennsylvania breeder. About 90 per cent of the calves fail to develop horns.

IN MINNESOTA there are many "Township Mutual" fire insuraucе companies. They are carrying about $350,000,000 in risks, at a cost of 18 cents a hundred as against 46 cents in the regular companies. This saves the farmers of the State about seven hundred thousand dollars a year.

Maurice Costello

Famous Moving Picture Actor, says:

"The great thing about Tuxedo is the fact that it gives full fragrance and flavor together with extreme mildness. I find Tuxedo not only the height of pipe enjoyment but a distinct benefit because it gives just the proper degree of relaxation. Tuxedo is undoubtedly an exceptional tobacco."

Maurice Costello

"As Popular As The Movies"—TUXEDO

Tuxedo answers every smoke desire—every little palate craving, every longing for the one Perfect Pipe and Cigarette tobacco. No matter when or how you smoke Tuxedo it sends right into your heart a glimmer of Gladsome Sunshine. And you can just about hear the honeybees buzz in the far-off gardens.

Tuxedo

The Perfect Pipe Tobacco

Sings into your system a song of keen delight. It spreads real happiness and cheer because it's smokable, lovable, all day, all night—no matter how the weather fits. Tuxedo's flavor is so enticingly mild and delicately fragrant it will not irritate the most sensitive throat.

Simply the choicest mild leaves of grand old Kentucky Burley—ripe, rich, fragrant and mellow—made into delicious tobacco that smokes as smooth as cream. That's Tuxedo.

YOU CAN BUY TUXEDO EVERYWHERE

Convenient, glassine-wrapped, moisture-proof pouch. . . . **5c**

Famous green tin, with gold lettering, curved to fit pocket **10c**

In Tin Humidors 40c and 80c *In Glass Humidors 50c and 90c*

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Let me tell you the story. Let me show you how I have turned the best factory of its kind in the world and the best sales system in the vehicle line to making high-grade vehicles for you at unheard-of low prices.

Split Hickory Vehicles

have gained a world-wide reputation for high quality. That's because for 15 years I have made them of second growth hickory, split, not sawed. Now, my quality is higher than ever, but I have worked out my new 5% plan to split prices lower than I ever could before.

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That's the way I back up the quality of Split Hickory Buggies. I send them to you for a hard-road test on your own roads. If the quality isn't there, you send the buggy back and I pay all the freight both ways. If you see the quality and keep the buggy, my two years' guarantee protects you.

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Get This Big Story Sure

The Brown Mouse

The Romance of a Farm Hand Who Upset a School District

By Herbert Quick

Part Eleven

IMAGINE a field hand who had studied out the laws and reasons for his results; who knew the soil, the air, and the crops as well as he knew his friends; who knew the people around him too, and the ignorance and incompetence of the children turned out by the old system of country schools—such a field hand was Jim Irwin. Then he suddenly ceased to be a field hand and became teacher of the Woodruff District school. His nomination was a joke, his election an accident—the results an amazement. He said that agriculture could be the medium for all that the textbooks taught. In his school, therefore, arithmetic became farm arithmetic; chemistry, soil chemistry; and some of the old readers were displaced by bulletins. Parents clamored angrily for "culture," but the pupils came to school and gave their fathers points about crops and live stock. They finally vindicated Jim by passing gloriously through an examination conducted by his old sweetheart, Jennie Woodruff, now county superintendent, and designed to result in his removal for incompetency. At first Jennie scorned and lashed his originality, but when Jim was asked to lecture at the State Agricultural College and began in sundry ways to be treated as an important person, she sat up, blinked, and waited for the light of day.

Jim walked farther with his blushing burden than was strictly necessary

XXVII

Jim Wades in Strange Waters

A SUDDEN July storm had drenched the fields and filled the swales with water. The cultivators left the cornfields until the next day's sun and a night of seepage might once more fit the black soil for tillage. The little boys rolled up their trousers and tramped home from school with the rich mud squeezing up between their toes, thrilling with the electricity of clean-washed nature; and the little girls rather wished they could go barefooted too, as indeed some of the more sensible decided to do.

A lithe young man with climbers on his legs walked up a telephone pole by the roadside to make repairs to the wires which had been whipped into a "cross" by the wind of the storm and the lashing of the limbs of the roadside trees. He had tied his horse to a post up the road, and was running out the trouble on the line, which was plentifully in evidence just then. Wind and lightning had played hob with the system, and the line repairer was cheerfully profane, in the manner of his sort, glad by reason of the fire of summer in his veins, and incensed at the forces of Nature which had brought him out through the mud to the Woodruff District to do these piffling jobs which any of the subscribers ought to have known how to do themselves, and none of which took more than a few minutes of his time when he reached the seat of the difficulty.

Jim Irwin, his school out for the day, came along the muddy road with two of his pupils, a bare-legged little boy and a tall girl with flaxen hair—Bettina Hansen and her small brother Hans, who refused to answer to any name other than Hans Nilsen. His father's name was Nils Hansen, and Hans, a born conservative, being the son of Nils, regarded himself as rightfully a Nilsen, and disliked the "Hans Hansen" on the school register. Thus do European customs sometimes survive among us.

Hans strode through the pool of water which the shower had spread completely over the low turnpike a few rods from the pole on which the trouble-shooter was at work, and the electrician ceased his labors to see what the flaxen-haired girl would do when she came to it.

Jim and Bettina stopped at the water's edge.

"Oh," cried she, "I can't get through!"

The trouble-shooter felt the impulse to offer his aid, but thought it best, on the whole, to leave the matter in the hands of the lank schoolmaster.

"I'll carry you across," said Jim.

"I'm too heavy," answered Bettina.

"Nonsense!" said Jim.

"She's awful heavy," piped Hans. "Better take off your shoes, anyhow!"

Jim thought of the welfare of his only good trousers, and saw that Hans's suggestion was good; but a mental picture of himself with shoes in hand and bare legs restrained him. He took Bettina in his arms and went slowly across, walking rather farther with his blushing burden than was strictly necessary. Bettina was undoubtedly heavy, but she was also wonderfully pleasant to feel in arms which had never borne such a burden before; and her arms about his neck as he slopped through the pond were curiously thrilling. Her cheek brushed his as he set her upon her feet and felt, rather than thought, that if there had only been a good reason for it Bettina would have willingly been carried much farther.

"How strong you are!" she panted. "I'm awful heavy, ain't I?"

"Not very," said Jim with scholastic accuracy. "You're just right. I—I mean, you're simply well nourished and wholesomely plump."

Bettina blushed still more rosily.

"You've ruined your clothes," said she. "Now you'll have to come home with me and let me— See who's there!" Jim looked up at the trouble-shooter and went over to the foot of the pole.

The man walked down, striking his spurs deep into the wood for safety.

"Hello!" said he. "School out?"

"For the day," said Jim. "Any important work on the telephone line now?"

"Just trouble-shooting," was the answer. "I have to spend three hours hunting these troubles to one in fixing 'em up."

"Do they take much technical skill?" asked Jim.

"Mostly shakin' out crosses and puttin' in new carbons in the arresters," replied the trouble man. "Anyone ought to do any of 'em with five minutes' instruction. But these farmers, they'd rather have me drive ten miles to take a hairpin from across the binding posts than to do it themselves. That's the way they are."

"Will you be out here to-morrow?" queried the teacher.

"Sure!"

"I'd like to have you show my class in manual training something about the telephone," said Jim. "The reason we can't fix our own troubles, if they are as simple as you say, is because we don't know how simple they are."

"I'll tell you what I'll do, Professor," said the trouble man. "I'll bring a phone with me and give 'em a lecture. I don't see how I can employ the company's time any better than in beating a little telephone sense into the heads of the community. Set the time and I'll be there with bells."

Bettina and her teacher walked on up the shady lane, feeling that they had a secret. They were very nearly on a parity as to the innocence of soul with which they held this secret, except that Bettina was much more single-minded toward it than Jim. To her he had been gradually attaining the status of a hero whose clasp of her in that iron-armed way was mysteriously blissful, and beyond that her mind had not gone. To Jim, Bettina represented in a very sweet way the disturbing influences which had recently risen to the threshold of consciousness in his being, and which were concretely, but not very hopefully, embodied in Jennie Woodruff.

Thus interested in each other, they turned the corner which took them out of sight of the lineman, and stopped at the shady avenue leading up to Nils Hansen's farmstead. Little Hans Nilsen had disappeared by the simple method of cutting across lots. Bettina's girlish instinct called for something more than the casual good-by which would have sufficed yesterday. She lingered, standing close to Jim Irwin.

"Won't you come in and let me clean the mud off you," she asked, "and give you some dry socks?"

"Oh, no!" replied Jim. "It's almost as far up to your house as it is home. Thank you, no."

"There's a splash of mud on your face," said Bettina. "Let me—" And with her little handkerchief she began wiping off the mud. Jim stooped to permit the attention, but not much, for Bettina was of the mold of women of whom warriors are born. Their faces approached, and Jim recognized a crisis in the fact that Bettina's mouth was presented for a kiss. Jim met the occasion like the gentleman he was. He did not leave her stung by rejection; neither did he obey the impulse to respond to the invitation according to his man's instinct: he took the rosy face between his palms and kissed her forehead—and left her in possession of her self-respect. After that, Bettina Hansen felt, somehow, that the world could not possibly contain another man like Jim Irwin—a conviction which she continued to cherish when that respectful caress had been swept into the cloudy distance of a woman's memories.

XXVIII

The Trouble-Shooter Tells

PETE, Colonel Woodruff's hired man, was watering the horses at the trough when the trouble-shooter reached the Woodruff telephone. County Superintendent Jennie had run for her father's home in her little motor car in the face of the shower, and was now on the bench where once she had said "Humph!" to Jim Irwin, and thereby started in motion the factors in this story.

"Anything wrong with your phone?" asked the trouble man of Pete.

"Nah," replied Pete. "It was on the blink till you done something down the road."

"Crossed up," said the lineman. "These trees along here are something fierce."

"I'd cut 'em all if they was mine," said Pete, "but the Colonel set 'em out, along about '66, and I reckon they'll have to go on a-growin'."

"Who's your school teacher?" asked the telephone man.

The county superintendent pricked up her ears, being quite properly interested in matters educational.

"Feller name of Irwin," said Pete.

"Not much of a looker," said the trouble-shooter.

"Nater of the sile," said Pete. "He an' I both worked in it together till it roughened up our complexions."

"Farmer, eh?" said the lineman interrogatively. "Well, he's the first farmer I ever saw that recognized that there's education in the telephone business. I'm goin' to teach a class in telephony at the schoolhouse to-morrow."

"Don't get swelled up," said Pete. "He has everybody tell them young ones about everything—blacksmith, cabinet maker, pie founder, cooky cooper, dressmaker—even down to telephones. He'll have them scholars figurin' on telephones, an' writin' compositions on 'em, and learnin' 'lectricity from 'em, an' things like that."

"He must be some feller," said the lineman. "And who's his star pupil?"

"Didn't know he had one," said Pete. "Why?"

"Girl," said the trouble-shooter. "Goes to school from the farm where the Western Union brace is used at the road."

"Nils Hansen's girl?" asked Pete.

"Toppy little filly," said the lineman, "with silver mane; looks like she'd pull a good load and step some."

"M'h'm!" grunted Pete. "Bettina Hansen looks well enough. What about her?"

Again the county superintendent, seated on the bench, pricked up her ears that she might learn, mayhap, something of educational interest.

"I never wanted to be a school teacher as bad," continued the shooter of trouble, "as I did when this farmer got to the low place in the road with the fair Bettina this afternoon when they was comin' home from school. The water was all over the road—"

"Then I win a smoke from the roadmaster," said Pete. "I bet him it would overflow."

"Well, if I was in the professor's place I'd be glad to pay the bet," said the worldly lineman. "And I'll say this for him, he rose equal to the emergency and caved the emergency's head in. He carried her across the pond, and her a-clingin' to his neck in a way to make your mouth water. She wasn't a bit mad about it either."

"I'd rather have a good cigar any ol' time," said Pete. "Nothin' but a yaller-haired kid, an' a Dane at that. I had a dame once up at Spirit Lake—"

"Well, I must be drivin' on," said the lineman. "Got to get up a lecture for Professor Irwin to-morrow, and maybe I'll be able to meet that yaller-haired kid. So long!"

XXIX

Jennie Wept—But Why?

THE county superintendent recognized at once the educational importance of the matter when one of her country teachers adopted the policy of calling in everybody available who could teach the pupils anything special, and converting the school into a local Chautauqua served by local lecturers.

She stayed over and heard the trouble-shooter's lecture. She saw the boys and some of the girls given an explanation of the telephone and the use of it. She heard the teacher give as a language exercise for the next day an essay on the ethics and proprieties of

eavesdropping on party lines, and saw the beginnings of an arrangement under which the boys of the Woodruff School took the contract to look after easily remedied line troubles in the neighborhood on a basis which paid for a telephone for the school, and swelled slightly the fund which Jim was accumulating for general purposes. Incidentally she saw how really educational was the work of the day, and that to which it led.

She had no curiosity to which she would have confessed, about the relations between Jim Irwin and his "star pupil," that young Brünnhilde, Bettina Hansen; but her official duty required her to observe the attitude of pupils to teachers, Bettina among them.

Clearly, Jim was looked upon by the girls, large and small, as a possession of theirs. They competed for the task of keeping his desk in order, and of dusting and tidying up the schoolroom. There was something of exaltation of sentiment in this. Bettina's eyes followed him about the room in a devotional sort of way, but so too did those of the ten-year-olds. He was loved, that was clear, by Bettina, Calista Simms, and all the rest—an excellent thing in a school.

All the same, Jennie met Jim rather oftener after the curious conversation between those rather low fellows, Pete and the trouble-shooter. As autumn approached, and the time came for Jim to begin to think of his trip to Ames, Colonel Woodruff's hint that she should assume charge of the problem of Jim's clothes for the occasion came more and more often to her mind.

Would Jim be able to buy suitable clothes? Would he understand that he ought not to appear in the costume which was tolerable in the Woodruff District only because the people there were accustomed to seeing him dressed like a tramp? Could she approach the subject with any degree of safety? Really, these were delicate questions, and considering the fact that Jennie had quite dismissed her old sweetheart from the list of eligibles—really had never admitted him to it, in fact—they assumed great importance to her mind.

Once, only a little more than a year ago, she had scoffed at Jim's mention of the fact that he might think of marrying, and now she could not think of saying to him kindly, "Jim, you really must have some better clothes to wear when you go to Ames." It would have been far easier a year ago. Somehow, Jim had been acquiring dignity and unapproachability. She must sidle up to the subject. She did. She took him into her runabout one day as he was striding in that plowed-ground manner of his toward town, and gave him a spin over to the fair grounds and two or three times around the half-mile track.

"I'm going to Ames to hear your speech," said she.

"I'm glad of that," said Jim. "More of the farmers are going from this neighborhood than ever before. I'll feel at home if they all sit together where I can talk at them."

"Who's going?" asked Jennie.

"The Bronsons, Con Bonner, and Nils Hansen, and Bettina," replied Jim. "That's all from our district. And Columbus Brown and probably others from near-by localities."

"I shall have to have some clothes," said Jennie.

Jim failed to respond to this, as clearly out of his field. They were passing the county-fair buildings, and he began expatiating on the kind of county fair he would have—a great county exposition, with the schools as its central thought, a clearing house for the rural activities of all the country schools.

"And Pa's going to have a suit before we go, too," said Jennie. "Here are some samples I got of Atkins the tailor. Which, in your opinion, would be the most becoming, Jim?"

Jim looked the samples over carefully, but had little to say as to their adaptation to Colonel Woodruff's sartorial needs. Jennie laid great stress on the excellent quality of one or two samples, and carefully specified the prices of them. Jim exhibited no more than a languid and polite interest, and gave not the slightest symptom of ever having considered even remotely the contingency of having a tailor-made suit. Jennie sidled closer to the subject.

"I should think it would be awfully hard for you to get fitted in the stores," said she, "you are so very tall."

"It would be," said Jim, "if I had ever considered the matter of looks very much. I guess I'm not constructed on any plan the clothing manufacturers have regarded as even remotely probable. Now, about this county-fair idea. Couldn't we do it this next fall? You organize the teachers—"

Jennie advanced the spark, cut out the muffler, and drowned the rest of Jim's remarks in wind and dust.

E.

"I give it up, Dad," said she to her father that evening.

"What?" queried the Colonel.

"Jim Irwin's clothes," she replied. "I think he'll go to Ames in a disgraceful plight, but I can't get any closer to the subject than I have done."

"Oh, then you haven't heard the news?" said the Colonel. "Jim's going to have his first made-to-measure suit for Ames. It's all fixed."

"Who's making it?" asked Jennie.

"Gustaf Paulsen, the Dane that's just opened a shop in town."

"A Dane?" queried Jennie. "Isn't he related to some of the neighbors?"

"A brother to Mrs. Hausen," answered the Colonel.

"Bettina's uncle?"

"Ratherly," said the Colonel, "seeing as how Bettina's Mrs. Hansen's girl."

Clothes are rather important, but the difference between a suit made by Atkins the tailor and one built by Gustaf Paulsen, the new Danish craftsman, could not be supposed to be crucially important, even when designed for a very dear friend. And Jim was scarcely that—of course not!

Why, then, did the county superintendent hastily run to her room and cry? Why did she say to herself that the Hansens were very good people, and well-to-do, and it would be a fine thing for Jim and his mother, and then cry some more?

Colonel Woodruff failed to notice Jennie's unceremonious retirement from circulation that evening, and had he known all about what took place he would have been as mystified as you or I.

[CONTINUED IN NEXT ISSUE]

Look through this issue of Farm and Fireside and see how many things are advertised which you need around the farm and in your home. You will doubtless buy several your next trip to town. In the meantime write for the catalogues of these merchants. Look through them carefully and select just what best suits you. Farm and Fireside guarantees the honesty of its advertisers.

Why?

By Edwin L. Sabin

He was a bird; just a small feathered thing,
Sweet with his twitter and swift with his wing;
Born to enliven the green and the blue;
Buoyant and busy the summer day through,
Meaning no wrong when he paused but to scan
What might be doing his big brother Man.
Did somebody see him and say he must die?
And somebody killed him? But why? Tell me, why?

He was a bird, and was glad all the day;
He chirped midst the sunshine and chirped midst the gray.
And whether he sang with an oriole's art,
At least we could know he had song in his heart.
And whether his garments were somber or bright,
He wore them as proudly from dawning to night.
Did his happy demeanor offend someone's eye?
And someone must kill him? But why? Tell, me why?

He was a bird, and he asked nothing more—
Just wing room and hopping and chirping galore;
A bug and a seed, and of water a sip,
And a twig or a post where to preen or to chip.
I'm certain he never designed to intrude—
This fellow, hard-working for wife and for brood.
Was someone annoyed when he fluttered too nigh?
And someone must kill him? But why? Tell me, why?

He was a bird, and performed in the air
The feats that we humans still vainly would dare.
He never pretended to rival our walk,
He never seemed boastful to talk as *we* talk.
Of course he could flit as he pleased, high and low,
And crossed the air spaces like shaft from a bow.
Did somebody hate him because he could fly?
And somebody killed him? But why? Tell me, why?

Trust No Future

Dear Fireside Editor: In a lecture delivered by the late Sam Jones at our Chautauqua a year or so before his death, he said: "I have made this a rule of my life, 'Pay as you go; if you can't pay don't go.'" These remarks are for the benefit of C. O., Iowa, in Farm and Fireside for January 2d.

J. S. Y., Oregon.

The Teething Fallacy

By Dr. Leonard Keene Hirshberg

Health comes to a sick child even though he is teething, not by lightly dismissing a cough, a sick stomach, a pain, a tired and restless night as due to his teeth,—for this is really an impossible cause of his sickness,—but by looking as thoroughly for the reason of his indisposition as you would look in the case of an older child or an adult.

From time immemorial teething has been the scapegoat for all of an infant's illnesses at a certain age, and many babies have died in consequence.

She who dismisses the illness of her child by thinking, "He is teething; it must be due to that," is playing with fire—fire which has left a deadly trail along the road of time. Deaths and calamities cannot speak nor tell tales, therefore this dangerous superstition that a teething child must of necessity be sick has been perpetuated.

The teething lunacy has only this foundation in fact: the gums, in a few exceptional cases, may be thick, tough, and sensitive. In these rare children a little fretfulness and possibly a few hours' restlessness just as a tooth is about to bore or root its way forth through the swollen gum is the worst you will discover. If illness occurs at this time it is not due to the gums, but to such a cause as would account for it if no teeth were on their way.

The illnesses which occur during the second summer are due to the prevalent overfeeding and bad feeding of babies at this age. In the extreme heat, even a mother's milk may be upset, while the vicious and often fatal bacteria of cholera infantum, dysentery, and other terrible summer complaints are rampant in the food of the artificially fed baby. Then the "second summer" and "teething" are held responsible for what is really the result of stale and dirty milk and the neglect of mothers who think that babies must be ill at this period. They should be just as healthy during their second summer and through all their teething period as at any time in their lives, and will be if they are as carefully fed and cared for.

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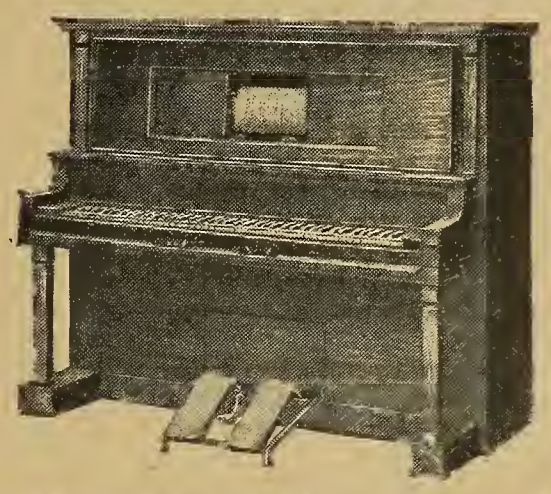
This Player Piano ABSOLUTELY FREE for a NAME



Send in the name you suggest TODAY—read below

We are about to place on the market a new player piano made in the big daylight factory of the Conway Company (division of the Hallet & Davis Piano Company, Boston). This instrument is destined to occupy the most commanding position in the player piano field, and to go into more American homes than is possible for any other player.

The price of this latest player piano is to be $390. We want a suitable name for it, and we will give one of these player pianos, as shown in the cut, *absolutely free*, to the person submitting the name which is most suitable. The name of person to whom the player piano is awarded will be announced.

This instrument stands for honest merit, at the most moderate price. The quality of material is sterling throughout, and we give with it our absolute written guarantee. The case is simple; but the finish is beautiful. The keys are not genuine ivory, which is scarce and high priced, but are composition ivorine, perfect in appearance and durability.

The player action is simple, but to the great surprise of the manufacturers, this very simplicity has added to its sensitiveness and responsiveness. You can play so easily that the instrument seems to respond unconsciously to your feelings and emotions. It is true in tone—it is a real musical instrument.

The Price is F. O. B. Boston $390 It is exactly right. 6% interest on time payments.

We expect to advertise it nationally in the magazines. Therefore this is a preliminary announcement. It is also an opportunity for someone to obtain one free. All you have to do is to think of a name and send it in. Your coupon must be in by Saturday, April 24, 1915, at 6.00 P. M.

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146 Boylston St., Boston, Mass.

All you have to do is fill out and send this in today

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I suggest this name for the new $390 Player

Piano Model.....

My Name.....

Address.....

City..... State.....

Have you a piano or organ?.....

Are you interested in a player piano or piano?.....

This is Leonard Foreman, Osceola Mills, Pa. Some of his friends told him he didn't have any chance to win the pony. But he won one just the same.

This is Viva McNutt, Vandegrift, Pa. She won Teddy. It just goes to show that girls can win as well as boys.

And this is another girl winner, Irma Musante, New London, Ct. I've given just as many ponies to girls as I have to boys.

This is Tom Clark Pennington, London, Ky. Tom lives in town, and went from house to house and easily won "Spot."

This is "Major"
Do You Want to Win Him?

I am going to give Major, the pony shown in this picture, with his buggy and harness, to some lucky boy or girl who joins the Pony Club. Don't you want him?

Boys! Girls! The Pony Man Has Given Away Over 100 Ponies!

I am the Pony Man of Farm and Fireside. I have given away over one hundred ponies to boys and girls who joined my Pony Club. Do you see all these pictures of boys and girls on this page? I have given a pony to each one of them. If you want to, you can write to them and they will tell you that I gave the pony to them without spending one cent of their own money.

This year I am going to give away the two handsomest ponies I have ever seen. Think of it—two ponies instead of one. Major is the name of one. You see his picture just above here. I am going to give him away with his buggy and nickel-plated harness, just as you see him. And Dandy is the other.

Don't Wait and Then Say, "I'm Sorry"

If you don't cut out that coupon now, do you know what will happen? Some other boy or girl will win Major or Dandy. Maybe it will be some boy or girl in your own town. Maybe you will see him or her driving to school, or playing with Major, or riding Dandy down to the town, and you will say, "I might have been the owner of Major. The Pony Man offered him to me first, but I didn't cut out the coupon and so that other boy got him instead."

Don't let that happen. There is a place for you in my Pony Club. You have just as much chance to win Major or Dandy, as these other boys or girls had to win their ponies. In fact you have more, because I will give you

1,000 Votes for Major

the minute that coupon comes in with your name on it. I will give you 1,000 Votes for promptness, which will give you a good long start toward winning Major or Dandy.

Do you realize that Major or Dandy is the finest, most companionable little playmate imaginable? Either one is as strong as a full-grown horse. They will carry you all day and not be tired. And they are so gentle that they will come up to eat a lump of sugar out of your hand. Think of the fun you will have; think of the money you can earn; think how proud your father and mother will be when you have won a pony, all for your very own.

The Most Wonderful Pony Club in the World

There is no other Pony Club like mine. If you don't believe it, ask these other boys and girls whose pictures you see printed here. They will tell you that I have given them ponies and that joining my Pony Club was the best fun they ever had. Don't let anyone tell you that you cannot win.

Some of these boys and girls who won ponies were less than ten years old. Some of them lived far out in the country away from neighbors. Some of them lived in cities and towns.

I have a secret to tell you that will make your work very easy. And I want to send you a great big Pony Circular and give you lots of pictures of ponies. All you have to do is to cut out the coupon and send it to me. That's a pretty easy way to join a Pony Club and win a pony, isn't it?

To Join The Pony Club and Get 1,000 Votes Cut Out This Coupon

This is Johnie Kielen, R. 4, Madison, Minn. He lived away out in the country, but he won a pony just the same.

LaVerne Fulton, North Lawrence, Ohio, says that the Pony Club is the nicest Club he was ever in. "I advise every boy and girl to join," he says.

And Virginia Jamison says: "If any boy or girl wants to know about the Pony Club tell them to write to me." She won a pony and lives in Iola, Kansas.

F3

The Pony Man
Farm and Fireside, Springfield, O.

I would like very much to have a Shetland Pony of my own, and wish you would send me the 1,000 Free Votes and tell me how to win Major and his elegant outfit.

Name.....

P. O.....

State..... R. F. D. No.....

EW

The Experience Bazaar

How Some of Our Readers Value Their Home Life

The First Years Determine the Rest

DEAR FIRESIDE EDITOR: What is there for the children whose parents have deprived them of childish joys in order to lay up money for their future? They will not know how to enjoy it.

Give to the child that which cannot be taken away—an education, not only from books but from life itself, so that when he is ready to go out into the world he will know how to cope with obstacles which rise up to meet him.

I know of a small home that was full of good books and pictures. The children were always in school, and the mother put them through an academic course with "butter money." These children never felt ill-dressed, for their clothes were of good material and they were taught to take care of them.

Now I contend that any child who has had the right training and finished high school or academy can secure a college education through his own efforts, if he so desires. He is ready to plunge into the battle of life, and will not sink beneath the encumbrance of ignorance and inability.

Parents, give the child the best you can, but be sure it is the best before you give it to him. Pause a while in your mad rush until you see plainly the best within your reach. Teach him the value of living, and the value of money, and he will "rise up and call you blessed."

MRS. J. V. C., Wyoming.

Consider the Home, Not the House

DEAR FIRESIDE EDITOR: I have been very much interested in this discussion. To the question, Shall the farmer borrow money to provide more of the luxuries for home? I answer no. When the home is founded on solid principles it is safe. In these days of cheap paint and paper, no home, ever so humble, need be cheerless. I would rather a child of mine sat on a soap box than on a costly chair not paid for.

Let each member contribute by his own effort some article that will make home more cheerful. And instill into the mind of each child that he or she must help to make home the best place on earth.

I once visited in a home in the Far West, on a wind-swept prairie. It was only a log cabin, but the spirit of home was there. There was a large living-room with an open fire. The furniture was mostly home-made, covered with cretonne. But they had one luxury, a piano, and when they gathered around it in the evenings hardship and poverty were forgotten.

I want to say, too, that every one of these children has found more than the ordinary success in life. And every one of them attributes the success to the sweet home spirit in the humble cabin, where they learned not a polite smattering of manners to be used for company but true courtesy, which never fails to beautify every life it enters, and is at the call of those who wish to cultivate it.

I would have little respect for a son or father who would see a wife or mother carry water to and from the house when a kitchen sink may be purchased for $2, and anyone can install one and dig a proper drain to save all this heavy work. A small engine and pumping jack may be had for less than $30. Little by little these comforts may be installed in the home. They cost but little money, but they bring into the home a sense of comfort and well-being, and each member of the family will feel repaid for helping to bring about these better conditions.

MRS. J. L., Ohio.

It Isn't as Hard as You Think

DEAR FIRESIDE EDITOR: I was very much interested in the letter I read in the Experience Bazaar, and would like to submit a few facts from my own experience.

I believe with C. O. of Iowa that the way to keep the children on the farm is to do all you can to make home enjoyable. Your furnishings need not be expensive, yet it will pay to buy furniture on credit.

It won't be half so hard as you think to meet the small payments asked by most furniture houses, provided you are buying your things new. You will say to yourself, "Well, I must pay a dollar on my table." Then you economize on something else—something, perhaps, that you can very well do without—and after the table is paid for you do not miss the money and are happier besides.

Don't get the idea in your head that you must raise your children as you were raised. Times have changed since we were kids, and we must change with them to make a success in life. Give them all the education you can afford. Don't think that because you received only a few years' schooling and got through life all right your children can do the same.

Above all, don't make a drudge out of the boy or girl, working them from morning till night, never stopping to think that they are not strong enough for the amount of work you are compelling them to do. Most men won't put a colt to work until it is old enough to stand it, and then do so by easy stages; but parents turn right around and put the boy to working a full day long before he is able to do so. It seems strange that some men have more consideration for a colt than for their own children. Many fathers see in their boys a way to help them save and grasp all they can, and never think of the boy's pleasure or comfort. Is it any wonder, then, that he gets tired of staying at home and branches out for himself? Generally the parents blame the boy. They never stop to think that had they treated the boy right he would still be at home. Give him a good room and a house he can enjoy.

MRS. K. Y., Ohio.

Be Sure of Your Motive

DEAR FIRESIDE EDITOR: I was much interested in reading the two letters published in the Experience Bazaar of January 2d.

This is a hard problem to solve, and it confronts most of us married men.

I would like to tell of some of the ways by which we made our home more attractive. I saw we were in need of furniture, and had not the money to buy it. The first thing I tried to make was a lady's writing desk. I was rather surprised that I did so well. It's worth at least $12, and cost less than $3.

After making this piece, I set to work at odd times to make a library table and settee. I made the cushions too, and covered them with imitation leather. I also made two rocking-chairs, a Morris chair with cushions, two dining-room chairs, a high chair, plate rack, footstool, picture frames, and at last a kitchen cabinet, mortised and tenoned, worth at least $50, and it cost about $15 for material. I got the ideas from catalogues.

I am not a cabinet maker or even a carpenter, but we needed these things badly. We can do lots of things if we really want to. This beats sitting around swapping yarns and telling others how the government should be run. I don't suppose the material for all the set cost me over $40, and it's worth $200.

I am the father of six little children. We have always had plenty to eat and wear, such as it is. We do not have the fancy dishes or the finest of clothing. Sometimes the tears come to my eyes when I think I cannot do more for my family. But when I read the Bible and come to a passage like, "A man's life does not consist in the abundance which he possesses," I get lots of comfort.

If I thought my children needed a piano I would get them one, and sacrifice in some way to pay for it. But to buy a piano just to show the neighbors will not do the children much good. That is what we must decide every time: are we buying this thing because our children need it, or because we want to show off before the neighbors? In the first case, buy; in the second, don't buy. A. B. L., Oregon.

The Children Can Build the Home

DEAR FIRESIDE EDITOR: I think poverty of mind is a great deal worse than poverty of pocketbook. Is the former caused by the latter? I think not, if the right spirit is at work in the humble home.

I would suggest to C. O., Iowa, in place of incurring indebtedness and bearing the burden unknown to the children, to talk it over with the children and give them a chance to help. Start a "fund" for your purpose, and see how eagerly they will add their earnings. Get the surroundings you wish little by little, as you can afford to. The children will appreciate it much more because they have helped. MRS. A. W. A., Colorado.

When Lydia Rose Up

[CONTINUED FROM PAGE 16]

Her husband swallowed a chuckle but made no reply. He fastened the horse to a post and followed her in at the side door. She stopped short as her glance fell bewildered upon the chandelier over the center table, the brown box on the wall near-by. Her familiar plants sent their welcome from the unfamiliar environ of a bay window that had pushed out the opposite wall of the room.

"We'll put on new wall paper just as soon's as you can pick it out, Liddy," he said softly.

She turned to him the stare of a sleep-walker.

"Matthew," she gasped, "is that a telephone?"

"Sure 'nough, Liddy. You come here long o' me."

He took a limp hand to lead her to the kitchen door. She looked blankly upon the white sink with shiny faucets, the boiler by the range.

"Water," she muttered, "running water in my kitchen!"

The door into the new extension stood open and he led her unresisting to the entrance.

"Shelves for milkpans and butter crocks, Liddy," he explained proudly, "and a refrigerator for summer time. I should 'a' put in set tubs, only you said that about a washin' m'chine. So there's a motor instead to hitch to the 'lectricity. It'll turn the sewing m'chine too."

She looked about with a blankness of gaze that seemed to deny her realization of these wonders.

"You like it, don't you, Liddy?" the man asked in sudden fright.

"Like it!" she gasped.

He still held her hand, and led the way to the smallest guest-room, next their own chamber. He threw open the door with a flourish. "There! How's that?" he boasted.

"Oh, Matthew," she almost sobbed, "I could die of joy and gladness right now! I didn't know how I could ever bring myself to leave that tub of Cousin Lucy's. And you've done it all for me! And I scolded. Yes, I did, Matthew Patterson. I was just too cantankerous for an'thing. But I'm sorry, Matthew. Oh, Matthew—"

"There—there, now, don't you!" The man patted her heaving shoulders with kindly awkward hand. "Now you stop it. I've had a power of fun out of this business. Now I want to see what you've got in that trunk. I'll go bring it up."

He ran whistling like a boy down the stairs, leaving Lydia to fight back the unaccustomed tears. He staggered back presently with her little old trunk which he deposited gayly in the corner.

"There now! I want to see that grand new dress that wasn't goin' to be black. What color d'you get? You used to like blue, I recollect, and a nice gray'd become you too. What did you select?"

"Why—why, Matthew, I didn't get any at all. I—I thought I'd just's lief turn the black one once more. You see"—she removed the top tray with guilty haste—"you see, I got to thinking how everlasting long it was since you had a new suit, and I just up and bought you one. It's dark blue serge. And I got you a black cutaway too, and a pair of striped pants to go with it. And a new overcoat. I fitted 'em onto Cousin Horace. He's just your build. And a white vest, Matthew Patterson, and a gray necktie, and a pin to stick in it, that's got a di'mond in."

"Well—well, Liddy, I declare to goodness!"

She pulled out the articles and piled them in his arms. The round face with the bushy gray brows loomed, flushed with excitement above a mound of haberdashery.

"Gosh-a-mighty!" he stammered. "Won't I be a dude? But anyhow, Liddy, you got your chain?"

"Why, why, I went to buy it, Matthew, and I just got to thinkin' how 'twould look, you passin' the plate of a Sunday with that old silver watch chain on and me all rigged up so."

She took a box from the corner of the tray and handed it to him.

"I'd rather you had it, Matthew," she said simply.

The man dropped his newly acquired wardrobe on the bed and opened the little green box. He looked down upon the bright links in their nest of cotton with a suspicion of moisture in his eye.

"Well—well, Liddy," he exclaimed, "I do' know what to say. It ain't right for me to have all this and you nothin'. You'll have to go back and get some things for yourself with my money."

"Matthew, I've got all the things I want—a white sink, and a telephone, and an awful good husband. And oh, Matthew—a bathtub!"

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So we have to investigate values very carefully.

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This year the result is Clothcraft Blue Serge Special at $15.00; and many other pleasing patterns from $10 to $20. Come in and look them over.

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(IN YOUR TOWN)

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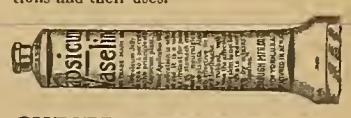
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This is Bluebelle

I Will Show You How to Make Her Easter Clothes

By Lura Warner Callin

Pattern for drawers

PICTURE 1.—This little shirt is made out of underwear goods. To make it, cut a strip long enough to go around the body and to lap over two inches. Measure along the middle of the upper edge the width of the doll's back and cut slits one and one-half inches long for armholes, then fold the cloth together at each of the slits and sew along the upper edge a little way to finish the armhole. Then trim out the neck, slope off the fronts, and crochet or buttonhole all around the neck and fronts, making a little loop with the thread upon one front to fasten over a button for closing the little shirt. Cut the sleeves like pattern, sew up and into the slits, and finish edges just as the neck was finished. Set on tiny buttons to use with the loops.

PICTURE 2.—As you will see by the diagram the pattern for the drawers is made of a square of paper folded on the diagonal—that is, from corner to corner—the small corners are cut off for the legs and the wide corner for the waist. After flat-seaming the lace the seams are sewed clear up on one side, but only halfway on the other, where the edges are hemmed the rest of the way. The top is finished with a binding. A piece of tape could be flat-seamed to the top for a belt.

PICTURE 3.—This petticoat is made of a bit of cloth from the top of a wide embroidered ruffle so there are some embroidered dots in it, which trim it nicely.

The strip of cloth is twice as long as it is wide, the width being the length of the skirt.

Instead of hemming the bottom we will put the lace on with a flat seam. Hold the lace along the wrong side of the cloth and sew the straight edge and the edge of the cloth in a seam, a narrow one, just keeping the edge of the lace so you can see a little thread along the edge of the cloth. This will keep it flat.

When the lace is sewed on all around with tiny stitches, turn it back on the right side of the cloth and, keeping the raw edge of the cloth tucked up under the lace, sew it down flat with wee running stitches. Then sew up the seam along the ends, making a seam on the right side first, then trimming off all the little threads which stick out, and turn the petticoat wrong side out and sew again, keeping below the edge of the goods turned in; then hem the two edges for an inch and a half, which have been left both times for a placket hole. Make this long enough not to tear.

Press the petticoat with a warm iron, then run two rows of gathering along the top. Fold the skirt so you find the halfway mark, and cut a tiny notch at that place and fold the belt and notch the halfway place the same way; then, after the top is gathered, pull the goods up on the threads so the gathers are tight together (do not break the threads), then press them flat between the fingers. Pull them out along the threads again, and pin the notch in the petticoat to the belt at the notched place and sew the gathers down to the belt; turn down a little fold all around the three edges of the belt, and then, folding it over, hem it down to the gathers.

Overhand the ends of the belt, and when it is pressed the petticoat is done. Do not try to use heavy muslin or cambric until your fingers are stronger than they are when you are nine or ten years old. Learn on the thin stuffs.

4

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PICTURE 4 shows a Balkan dress of soft gray cashmere which is cut with shoulder seams and set-in sleeves because we wanted it double-breasted.

The belt is a piece of ribbon velvet flat-seamed onto the skirt and the bottom of the waist. The neck and sleeves are finished with narrow velvet in the same manner. This is more easily done than if pieces were cut of velvet or silk, as there are no raw edges to hide nor fray out, which makes a lot of difference sometimes in the size of the dress.

Pattern for sleeves

Put the velvet on the sleeves before the seams are sewed,—do so in every case where trimming is used,—then sew all the seams with French seams, pressing with a hot iron all the seams and hems as soon as they are finished. The work will not get puckered up as it sometimes does. The little skirt is gathered, but the plaits are pressed in with the iron. Tiny hooks and eyes or loops fasten the fronts together.

You will see that it is easy to make pretty clothes for Bluebelle and her sisters. But I hear you say, "How can I buy the materials?" Why don't you have a doll's box and keep putting into it pieces of fine, soft cloth, such as lawn, India linen, challie, silk that may be left from the cutting of grown-up clothing, bits of lace, ribbons off candy boxes, cords and tassels from programs, small flowers, and tiny pins, such as come in ribbon bolts or seam binding, and the wee little safety pins from dress shields? Tiny buttons and hooks and eyes can be found at the stores, but they may be found also on old gloves and old collars. Put away everything that is dolly's size in this box, which should have a cover and be put in a convenient place where it is out of the way when not in use.

Another bit of advice: When you are ready to sew, select a small needle and fine thread. It is much easier to learn to take your small stitches with a small needle than with a coarse one. The big needle that you tried to learn to sew with is sometimes hard even for a grown person to handle.

Little fingers cannot expect to make short stitches with a needle that is often very much too long for them. Thread No. 70 or 80 is not too fine for the kind of goods we use for dolly's underwear and thin dresses.

How to Turn Flowers Into Gold

By Eben E. Rexford

THOSE who set about growing flowers and plants for sale should buy only the very best seed obtainable. Cheap seed will prove expensive in the end because only flowers of inferior quality can be grown from it, and the woman who undertakes to work up a business of this kind can afford to grow nothing but the best. Patronize a dealer of established reputation who never handles seed of poor quality. Start safe.

If one takes the catalogue of a reliable seedsman in the spring, and goes about among persons who own gardens, one can readily secure orders from them for flower and vegetable seed for home planting. Nearly all these seedsmen make a liberal discount from catalogue prices when a considerable quantity is ordered, and this will enable one to get all the seed one needs for one's own use without any cost to one's self.

What flowers are likely to be most salable? The sweet pea is a favorite everywhere. The nasturtium is a flower that many will be glad to purchase for the decoration of the table. Both are profitable because of the ease with which they can be grown and the profusion of their lovely bloom.

For small bouquets and buttonhole use ageratums will be found a favorite, as will the pansy and mignonette. For late summer and early fall nothing takes precedence of the aster, which rivals the chrysanthemum in beauty, and lasts for a fortnight after cutting if the water in which it is placed is changed daily. This will be found a most excellent flower for church use. The best variety to grow is the branching one, which produces its flowers singly on long stalks, thus making it ideal for arrangement in vases.

The gladiolus is a favorite plant for use at church, or for room decoration, if placed in tall vases. The entire flower stalk should be cut. A dozen stalks will give a superb effect. And few plants can be as easily grown as this one.

What colors sell best? I find that the more delicate ones find readiest purchasers. The pure white, pale primrose-yellow, soft pink, and dainty lavender sweet peas will sell where the darker colors would not. I should therefore advise the purchase of seed in which each color is by itself. It may be well to invest in a package or two of the pink-and-white varieties, as these, when not combined with other varieties, are great favorites. In buying aster seed I should select only pink, white and lavender shades, as these can be used singly or in combination.

Those who have choice house plants can grow young plants from cuttings during the summer. These will sell readily among those who are stocking up a winter window garden.

Window boxes are so popular nowadays that many plants are required for the filling of them each season, and these can be easily grown by the amateur. Petunias, nasturtiums, sweet alyssum, candytuft—all these can be used in them with good results, and they can be grown with a good margin of profit.

Do not let the desire to earn money tempt you to make the mistake of asking large prices for your flowers or your plants. Put your price a little lower than that asked by the professional dealer.

EW

When Easter Blooms in Your Kitchen—By Estelle Cavender

EASTER OFFERINGS—Boil a fat hen until the meat falls from the bones, and then boil the liquor down to one-half pint. Run the meat through a food chopper, pour on the liquor, and season, then mold into little chickens. Make the body the shape of an egg, add a chunk for the head. Shape it to the body with a knife. Use pepper grains for eyes and the end of a toothpick for the bill. Arrange on a platter, with sliced hard-boiled eggs in the center, and fasten on celery leaves with a toothpick for the wings. Garnish with parsley.

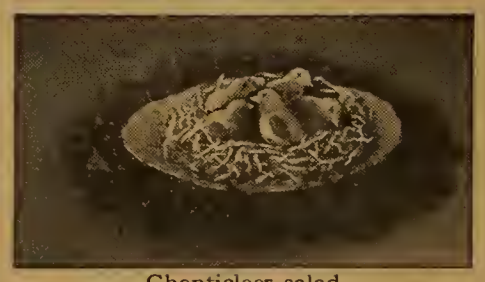
Easter offerings

EASTER LILY ISLAND—Stir the yolks of six eggs into one quart of milk, and add four tablespoonfuls of sugar. Place in a double boiler and stir until it thickens. When done, flavor and pour into a flat platter to represent an island. Chill. Beat the whites of six eggs stiff, and throw them into a pan of sweetened boiling water. Stir rapidly, and when they get set looking, remove from the stove and drain off all of the water. With a large spoon and a silver knife shape into a lily, using a large base of the whites to shape the petals on. Run thin long sticks made from butter pads into the base to support the petals on. Cover these sticks for the petals and join firmly at the base.

Lily island

Easter lily squash

AN EASTER LILY SQUASH—Select a good baking squash, and cut five slices with one end of each slice pointed like a lily petal. Bake with the rind on. When ready to serve arrange these slices of squash in a deep dish to look like a big lily, and lay three or four small hard-boiled eggs in the center to represent the stamen ends. Place the dish on a platter and garnish the platter with parsley. If desired, this lily may be colored by staining the petals with beet juice and covering the eggs with mayonnaise. The island lily may be shaded with melted chocolate.



Chanticleer salad

BABY CHANTICLEER SALAD—On a flat platter make a nest from finely cut cabbage. Sprinkle salt, pepper, and nut meats over the cabbage. Take hard-boiled eggs for the body of the chickens, and from a soft cream cheese shape heads onto the bodies; with a silver knife smooth down the joined edges. Join these heads to the small end of the egg. Use apple seeds for eyes, a cabbage leaf for wings, and the end of a toothpick for bills. Place the little chickens in the cabbage nest and set away to chill. When ready to serve pour a salad dressing over the whole, and if wanted for a centerpiece decoration garnish with lettuce leaves from an under dish or platter.

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The Woman's World is one of the best magazines printed for the money; in fact, is superior to many magazines selling for more than this. It is not only attractive in appearance, but its columns are full of the choicest literature that money can buy. It is a big value at a low price. Every farmer in the country should take this opportunity of obtaining the Woman's World without cost in connection with FARM AND FIRESIDE.

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ORDER TO-DAY
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A New Spring Dress

Miss Gould Offers Patterns for This Dress With Her Compliments

No. 2749
No. 2750

THESE few fitting hints may prove helpful when making your dress:

Baste up seams of blouse and try on. If a trifle larger around the neck or a little too full across the bust, put blouse on wrong side out, pin up shoulder and under-arm seams; mark these changes carefully; re-baste, and try on again before stitching.

The armhole is important. After taking in the seams, if you find the armhole needs cutting out be careful not to cut it out too much. The smaller the armhole is kept without discomfort the better the garment fits. Purchase belting the width indicated in the guide furnished with the skirt pattern. Set waist and skirt upon this inside belting when making the dress in one piece.

If skirt is too full, take up side seams. Turn hem at the very last.

If side seams are inclined to stretch, a straight piece of tape laid on easily and stitched in with the seam will prevent it.

To take bust measure for dresses and waists, pass the tape *loosely* around the fullest part of the bust, bringing it up slightly under the arms so that it will pass over the shoulder blades or fullest part of the back.

Take waist measure by drawing the tape *tightly* around the *smallest* part of the waist.

Take hip measure by passing the tape *loosely* around the *fullest* part of the hips, which is about six inches below waistline.

No. 2749
No. 2750

No. 2749—Double-Breasted Blouse with Long or Short Sleeves
34 to 46 bust

No. 2750—Three-Piece Skirt in Circular Effect
24 to 34 waist. Hip measure for 24-inch waist size, 38 inches. Width, at the bottom two and one-half yards in 24-inch waist size

I HAVE been wondering if my good FARM AND FIRESIDE friends might not like to have me tell them a little about how the patterns which appear in their magazine are created.

The pattern is begun right in my office. First there is the design which is thought out with *you* specially in mind. Then in the Pattern Department the design is made up in muslin. It is examined by a committee of experts who criticize it from every point of view. Everyone makes suggestions, various changes are made, and finally when we have all agreed that there seems no way to make the pattern easier to use, more practical or more attractive, the design is O. K.'d by me and the pattern is made, and ready for you to use.

Now, I never have an opportunity of knowing how our readers like our patterns, so it occurred to me not long ago that the best and most sensible way to find out would be to give you the patterns for the dress shown on this page with my compliments.

It is the sort of dress that I think is apt to appeal to almost every woman. It is so practical, and can really serve equally well for both house and street. All any reader of FARM AND FIRESIDE has to do to secure the pattern for this dress free of charge is to fill out and send in the coupon printed at the bottom of this page: and when you do this I am going to ask you to do one thing more just to please and to help me.

Write and tell me whether or not you liked the patterns. Did they go together easily? Were there many alterations necessary when fitting the dress? In what material did you develop the dress? Would you want to use a Woman's Home Companion pattern again? When you answer these questions will you send me your measurements as you gave them originally in asking for the patterns, and return the pattern envelopes? If you will answer these questions it will, I assure you, be a great help to me.

Now let us go back and talk about the dress that is illustrated on this page.

It is one of the very first dresses to be fitted over our new dummy.

The skirt measures two and a half yards around the bottom; the sleeves are set in, and the waistline a trifle raised.

If you wish to make it up as a house dress you can use one of the heavy cottons, madras, cotton crêpe, ratine, or just plain gingham with collar and cuffs of heavy eyelet embroidery, or the same material as the dress in white or a contrasting color.

The sleeves may be cut off at elbow length, and a straight piece of embroidery or material may be used instead of the wide girdle.

If you want to use it as a street dress, plain blue serge, wool crêpe, poplin, linen, or one of the heavier new spring cottons would be excellent.

I can't begin to tell you how many different ways I have in mind in which this little dress could be made.

One last word about our patterns. All unnecessary details, pieces, perforations, notches, etc., which might be confusing have been done away with in our efforts to make the patterns easy to use, and I am very anxious to know how you like them in their new simplified form.

MISS GRACE MARGARET GOULD,
Fashion Editor FARM AND FIRESIDE,
Springfield, Ohio.

Please send me free of charge patterns No. 2749 and No. 2750.

My measurements are: Bust.....Waist.....Hip.....

Name .....

Street or R. F. D. .....

City or Town .....State.....

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Michael Kohn
You should find out how this boy came to the institute.

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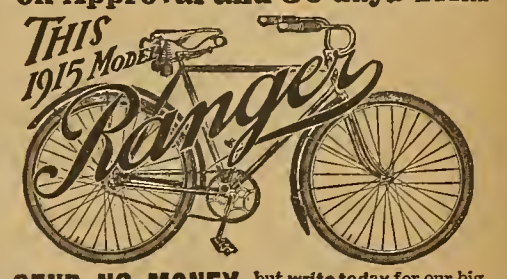

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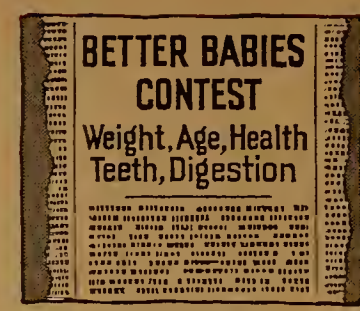
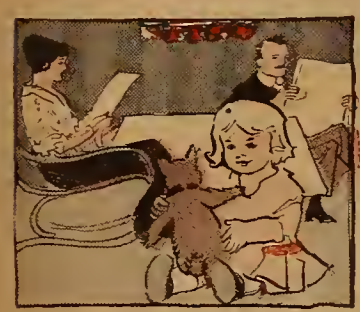
A Moral from the Movies

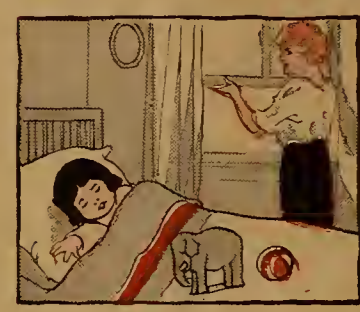
Mrs. Jones learns that the Better Babies Idea has reached Onwardtown and decides that her 3 year old Ted shall compete

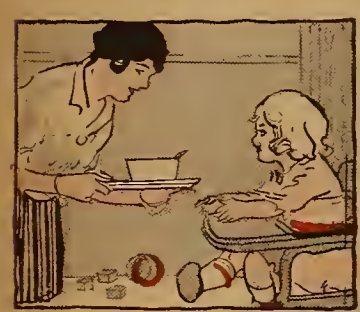


So does her neighbor Mrs. White who reaches the same decision in regard to her little Victoria

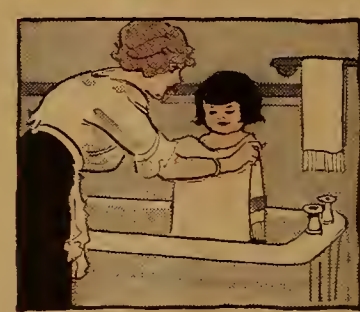


Both children are put in training as to sleep, food — clothing and daily routine





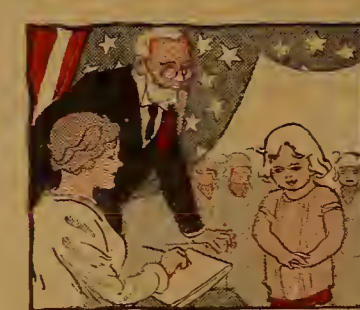
Their methods are almost the same



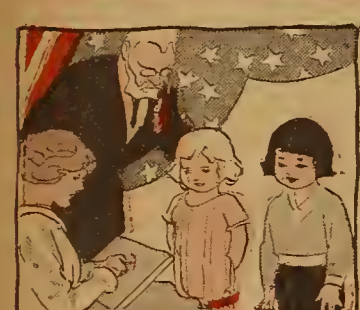
But notice the difference — Mrs. White has taken her dentist's advice

The children are made ready and taken to the Contest

The judges soon reduce the possible winners to Ten—including Ted and Victoria

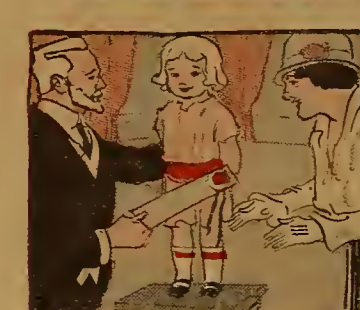


— and then to Two — Ted and Victoria only



Victoria's Score			
Age	3¼ yrs	Teeth	99
Weight	34 lbs	Digestion	98
Height	38 in	Strength	96
Gen. Health	98	Temper	99
Intelligence	98	FINAL SCORE	98⅓

Ted's Score			
Age	3¼ yrs	Teeth	88
Weight	32 lbs	Digestion	90
Height	37 in	Strength	94
Gen. Health	95	Temper	92
Intelligence	97	FINAL SCORE	92⅔



It was care of the teeth which made Victoria a "Better Baby"

APPROVED by the Board of Common Sense as the efficient dentifrice without a "druggy" taste

You too should use

THIS is a portrait of Victoria ——, a Prize Winner in a Better Babies Contest, whose mother wrote us as follows:

> "I have four children and though we have tried several dental creams the children all prefer Colgate's. The only problem* is to keep them from using it up too fast, because they like the taste.
>
> "Victoria began to brush at her teeth soon after she was two years old, and I have had the other children do the same. They all have good teeth."
>
> (*Name of writer on request*)

*What mother would object to such a problem? Have you supplied your children with Colgate's?

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PHOTO BY JOHN KABEL

The Modern Sower

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The Editor's Letter

At Coolfont Farm, April 2, 1915

ONE of the things which make the life of an editor so interesting is the uncertainty of it all. The editor labors hard to get before his readers the last word on some great subject, and leans back, weary in well-doing, and waits for the storm of applause which seems sure to roll in from his readers. Then it doesn't come.

Again, a little six-line item finds its way in, under a head of the most modest character, and it is heard everywhere.

Our friend J. Jenson relieved his mind not long ago by saying that he never heard of an honest government, and that if I were sincere in my teachings to the farmers I would tell them to vote for socialism. We printed this under the short head, "Is It So?"

And then another good friend, Mrs. Charles E. Jackson of Harford County, Md., wrote us this interesting letter:

This one tiny article, insignificant as it may seem to others, is what leads me to enclose one dollar and ask thee to please continue the paper.

What does thee mean by the title thee has given this article, "Is It So?" Did thee mean, "Can this be true?" or was it irony? We are not shrewd enough to be able to decide whether it was sarcasm or thee was really inviting correspondence on the subject.

We who understand socialism can tell thee in all sincerity that *it is true.* I wish thee understood socialism as a socialist does; to a brainy man like thyself it would unfold itself as a beautiful plan by which we can enjoy a little of heaven on earth, and enable us to live in a manner that insures us of a home in heaven when our hands are folded for the last time. Bear with me but a little longer and answer me if this ever occurred to thee.

Did not the same God who put the water in the earth for our use put the coal and oil there also? If the water is free to all—which it should be—by what right shall any corporation of men seize the coal and oil and make us pay an exorbitant price for it? By what right shall they decide, "Yes, God made the water free, but you pay for all else or you perish."

These are mighty questions, Herbert Quick, and if men like thee don't answer them, who will? Are the columns of FARM AND FIRESIDE open to a plain and sensible discussion of the subject?

If it were not for doing wrong to one who seems so candid, I should half suspect Mrs. Jackson of being ironical. Is there anyone able to read who has not heard of socialism? Surely not. Most people understand pretty well, in a general way, what socialism is.

Something is Wrong

Of course I shall agree with this reader that there is something wrong. Nobody can deny that. And if anyone feels like refuting her reasoning as to the water, the coal, and the oil, they are welcome to the task. I do not think there is any answer to her conclusion.

But what of converting FARM AND FIRESIDE into a forum for the discussion of these questions?—and as Mrs. Jackson says, "These are mighty questions." Well, I have learned by long experience that there is a proper time and place for all things. Time was when I stood on the soap box and preached my kind of reform with the best of them. But nobody was obliged to stop and listen, even though I was proclaiming, as Mrs. Jackson proclaims in her letter, the natural right of all men to a share in this planet into which men are similarly born.

I hope for the time when this natural right to land will be enjoyed by all—but in the meantime, we must plant and cultivate next year's crop. The interest on the mortgage and the deferred payment on the motor car must be met.

Not every paper can devote itself to socialism, or financial reform, or world peace, or single tax, or any of the great movements in which we all should be interested. FARM AND FIRESIDE cannot. Its editor is interested—and pretty well informed on them, he hopes. But the paper is a farm paper. The editor cannot steal the space which belongs to the farm for socialism or any other ism. Not that he is opposed to isms; he loves them.

We have some readers who believe that the greatest question in the world is not socialism at all, but the approaching end of the world and the Judgment Day. What's the use of getting excited about socialism, they say, when the heavens will be rolled up like a scroll and the last trump sounded long before E. V. Debs or any other socialist can be elected President?

These good people are quite as earnest as is Mrs. Jackson. They might say that if we were honest we would devote the paper to warnings against the Battle of Armageddon and the Judgment Day.

In the meantime, the crops have to be sown and tended and harvested. A hungry world will wake up every morning and call upon the farmer for its breakfast.

The Peasant's Answer

Tolstoy asked a Russian peasant what he would do if he were told that to-morrow would be the Day of Judgment.

"I would plow," said the peasant—and it was the best answer in the world.

In Colonial times there was a "Dark Day." It seemed as if the sun had forgotten to rise. People rushed to the churches to pray, for they believed the Last Day had come.

The Connecticut Legislature was in session. One trembling legislator moved an adjournment so that the members might prepare for the final smash.

"I move," said one whose name I forget, "that candles be brought so that we may go on with our work. If it is not the Day of Judgment, we have no reason to adjourn. If it is the Day of Judgment, let it find us doing our duty."

The world will go on for quite some time yet about as it is. The ordinary man has to plow, following the splendid example of the Russian peasant.

Every ism has its own press. Our ism is good farming and better farm life. In that field we expect to plow. There is nothing to prevent us looking up from the plow once in a while at the beautiful prophecies and prospects described to us by our friends, and in which we are very much interested; but to drop our job to follow them is quite out of the question.

This doesn't in any way deny the importance of these economic, religious, and social questions.

Once a man at a funeral said, "While the people are gathering I would like to say a few words on the currency question." He was an honest soul, but he forgot that not even the currency question could be discussed to good advantage there and then. There are very important things which are not important to FARM AND FIRESIDE. They are not our funeral.

Herbert Quick

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Always in Good Humor

TWO KINDS OF BUTTER

FARMER CLAPOLE—Has that city feller who bought Stone's farm learnt anythin' yet?

FARMER SANDS—Wall, he's learnt it don't do no good ter try ter make apple butter in a churn.—Judge.

"Some men," said Uncle Eben, "put in deir lives kickin' at nothin'. Dar's dis much to be said foh de mule: If he's iuterested enough to kick, he's willin' to go to de trouble of takin' aim."—Washington Star.

BOTH GUILTY

"What's that piece of cord tied around your finger for?"

"My wife put it there to remiud me to post a letter."

"And did you post it?"

"No; she forgot to give it to me."—Cincinuati Enquirer.

SHE—Would you leave your home for me?

HE—I'd leave a baseball game iu the ninth inning with the score a tie.—Philadelphia Public Ledger.

"Well, we have exhausted reasou, logic, common sense, and justice. What more can we do?"

"I guess we'll simply have to go to law."—Life.

TOLD TOO MUCH

In the primary grade it was customary to repeat the Lord's Prayer as part of the opening exercises each morning. During prayer the children would bow their heads upon their desks, each child resting his head upon his folded arms. One morning, immediately after prayer, a small girl held up her hand.

"What is it, Mary?" asked the teacher.

"Oh, Teacher, I saw Johnny looking around while we were praying."

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

If any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers.

FARM AND FIRESIDE is published every other Saturday. Copy for advertisements must be received three weeks in advance of publication date. $2.50 per agate line for both editions; $1.25 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 3% discount for cash with order. Three lines is smallest space accepted.

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Three-Cent Pork

And How the Spanish Peanut Makes This Possible

By V. H. SCHOFFELMAYER

SPANISH peanuts made a wealthy man of Joseph R. Smith, a negro squatter in the hills west of Oklahoma City during the famous land rush of 1889. Smith has a "black jack" farm of 160 acres of which he annually plants from 10 to 20 acres in Spanish peanuts and fattens from 50 to 100 head of Duroc-Jersey hogs at a cost of 3 cents a pound. Smith sells from $1,000 to $1,500 worth of hogs a year. He rotates Spanish peanuts with fall oats and rye and corn the following year, raising just enough corn on former peanut land to top off his peanut-fed hogs.

Peanuts have made his hill farm worth $50 an acre by enriching the soil through the feeding of the crop to hogs and thus conserving the fertilizer and distributing it on the fields where it is greatly needed.

Spanish peanuts are extensively fed to hogs in the mountain counties of Virginia and North Carolina, where the hogs have access to mast or the fallen acorns, after which they are finished on peanuts and corn.

Those who believe in the Spanish peanut are of the opinion that its usefulness as a hog, dairy, and general live-stock feed is just beginning to be understood.

A vigorous stand of Spanish peanuts under proper cultivation will mature a crop in 90 days, but an average period is 100 to 110 days. Thus they might be planted as late as June in the Central or Middle States and mature a crop between frosts, provided there be the type of soil needed for best results.

They have been grown successfully as far north as Moline, Illinois, Davenport, Iowa, Flagler and Fort Collins, Colorado, Columbia and Hannibal, Missouri, Brookings, South Dakota, and several points in southern Minnesota. It required two years to acclimate the seed, it having been introduced largely from Oklahoma and Virginia.

As soon as we come to recognize the high feeding value of the Spanish peanut, and the ease of culture, the area of production will be extended northward.

Peanuts in 1914 returned the growers of a dozen States in the South and Southwest a round $20,000,000. More than one million acres were planted to this crop, the largest acreage of course being in Virginia, North and South Carolina, and Georgia, where "goobers" have been a staple since the Civil War. The variety chiefly grown in the Atlantic Seaboard States is the Virginia, of which it is estimated that fully two thirds of the total crop, or approximately 15,000,000 bushels, for 1914 will be sold at a nickel a bag as unshelled hot roasted peanuts and as salted peanuts in thousands of penny slot machines. A tremendous business has been established in this branch of the peanut industry; but large as its proportions are, indications point to an even larger industry of feeding peanuts to live stock, principally hogs.

The Spanish peanut, because of its higher content of oil, and hence greater fattening qualities than the Virginia peanut, stands in a class alone as a live-stock feed.

Those who have studied the question are of the opinion that the Spanish peanut will soon become the chief feed for hogs and other live stock in the Southern and Southwestern States adapted to their cultivation.

Mr. Schoffelmayer, the writer of this article, sent us these pictures, which he took on a recent trip through the leading peanut-producing States. The center one shows the plants just pulled out of the row—a good yield of peanuts. The upper picture illustrates the method of curing. The horses and the mules in the barnyard are being fed Spanish peanut hay, while the hogs to the right were fattened on peanuts at the rate of three pounds a day for fifty days

Five years ago Spanish peanuts were almost unknown as live-stock feed in the Southwest, but to-day they are among the most valued crops in that section. Texas annually raises a crop worth about $2,000,000, grown on 100,000 acres. Oklahoma two years ago had approximately 50,000 acres, but the yield was cut down by an unlooked-for rainy fall which started the matured nuts to sprout in the ground before harvest, and on the vines after stacking. This proved a heavy blow to the Oklahoma peanut industry because the high price of seed last year prevented a representative acreage being planted.

The indications for 1915 are that Oklahoma will plant close to 100,000 acres of Spanish peanuts.

A test made under the direction of the U. S. D. A. in southern Arkansas three years ago resulted in the production of 800 pounds of pork off one acre of Spanish peanuts, the hogs harvesting the crop.

While such results are exceptional, I know hog raisers who yearly count on fattening a herd of 50 or 60 hogs on 10 acres of Spanish peanuts, the animals making a net gain of 100 to 125 pounds of pork in five or six weeks. Such results through Oklahoma, Arkansas, and Texas are not uncommon in the hands of skilled feeders.

Letting hogs harvest the peanut crop is not only the most economical method of feeding the crop but, based upon the price of hogs and pork during the past two years, probably one of the most profitable.

Spanish peanuts yield from 25 to 60 bushels an acre on land which under tests did not produce more than 10 bushels of corn.

However, rich bottom farms cannot be counted on to yield a profitable crop of peanuts, for the excess of nitrogen in the ground results in an altogether too vigorous growth of vines and no nuts. Peanuts need potash and phosphoric acid, but raisers commonly say, "The poorer the land the better the peanuts."

On tight clay lands, however, the yields are low.

A Louisiana acre of peanuts can be grown at an average expense of $15 an acre. The yield of peanut hay is three fourths of a ton an acre, and worth from $9 to $15 a ton. Louisiana nuts bring an average return of about 65 to 95 cents a bushel. Hence an acre of Louisiana Spanish peanuts and hay may be counted on, in an average year, to return an income of $28 to $35 an acre.

The advantage which the Virginia grower has over the Oklahoma, Louisiana, Arkansas, or Texas farmer is the proximity to market, which means larger cash returns per acre of at least 15 to 20 cents a bushel because of saving in freight.

It is this very condition which has helped greatly in raising Spanish peanuts throughout the Southwest as a hog or general live-stock feed.

Hogs on a diet of Spanish peanuts and a little corn and native grass have been fattened at the Arkansas Station at a cost of 2 cents a pound.

There are dozens of Southern hog raisers who yearly count on turning out hogs at a fattening cost of 3 cents

a pound. Since hogs usually sell for from 5 to 7 cents on foot, peanuts have made hog-raising one of the most profitable enterprises.

Hogs fattened on Spanish peanuts alone are too fat to dress economically. Corn is needed at the finish of feeding to harden the lard. In States where Kafir, Milo, Feterita, and other grain sorghums are grown, these grains are fed to hogs together with Spanish peanuts, and an ideal combination results, making hog production extremely profitable since these grain sorghums will outyield corn on poor lands, especially during seasons of drought.

A favorite method in Arkansas and Louisiana is to plant peanuts after an early crop of winter oats or rye.

To the hog raiser the winter pasture practically feeds his sows and their spring pigs. About the middle of May the oats or rye are cut for hay, and Spanish peanuts are planted, the usual method being in rows three feet apart, with the plants from six to twelve inches in the row. Special peanut planters are used, or special plates on other standard planters. Clean cultivation is important, and hand-hoeing will greatly increase the yield.

Some have found it profitable to drop hulled nuts in the rows by hand. This has a distinct advantage for the farmer who plants peanuts on a small scale because in the shelling every seed nut is inspected before it is planted and a better stand is obtained.

Spanish peanuts are more easily harvested than the other varieties which have more luxurious vines, such as the Virginia and Tennessee nuts. An ordinary potato digger is oftenest used, although many farmers simply remove the moldboard from a plow and run the blade just beneath the nuts, without disturbing the lower roots.

The removal of the hay, together with the nuts, leaves a field pretty bare, and subjects it to washing during the heavy fall and winter rains.

When Spanish peanuts are grown for feed for cattle and horses the nuts are usually dug, and the hay and nuts are stacked in the field around poles some six or seven feet high and from forty to sixty feet apart. About eight inches above the ground two crosspieces are nailed to the pole on which the first layers of hay are placed, with the nuts always toward the pole or inside. When the stack is finished, either a canvas is tied around the top or ordinary crabgrass is used to make a roof to protect the nuts from the rains. Usually the nuts are left in the stack six weeks or longer, after which they are threshed and the hay is baled.

Is Sex an Accident?

An Interesting Discussion for Live-Stock Breeders

By B. F. W. THORPE

FOR over 2,300 years people have been trying to find out whether the sex of offspring can be artificially controlled in animals. Of late years some successes have been obtained and, what is fully as valuable, a good many notions have been exploded. Up to date the question of sex control stands about as follows:

The sex of the offspring is *not* directly influenced—
By the general health or the nutritive state of the body,
Or by the parent that is the older,
Or by the parent that is the more vigorous,
Or by any exterior characteristic of either parent,
Or, in birds, by any exterior character of the egg.

A poultryman of my acquaintance claims that eggs that are nearly round, usually give pullets, while pointed eggs produce cock birds. I tried his method, and on the first occasion it seemed to be so. But other trials showed that the number of pullets and cocks was independent of the shape of the egg. This has been the experience of others also.

A statement is credited to a breeder of dairy cows that he will not keep a bull that will not give at least 60 per cent of heifer calves. We hope that readers of FARM AND FIRESIDE will not judge any of their breeding sires in such a foolish way. As a matter of fact, the progeny might be over 60 per cent females one year and males predominate the next year.

An authentic case has just come to my notice of a man who was the seventh consecutive son, and he himself has had seven sons in succession. Families where all the children are daughters are also common, but none of these cases have any significance. If you flipped a penny enough times you might be able to get "heads" seven times in succession, but that would not overthrow the law of averages. According to this law you will get heads just half the time and tails the other half if you flip a penny long enough.

Actual Results with Cows and Chickens

The secret seems to lie in the germ cell, and has baffled all attempts to solve it. Yet in the animal kingdom, where the breeder has so many of the factors under control, there is hope that we can at least affect the result.

Dr. C. D. Woods of the Maine Experiment Station has lately carried on extensive sex-control experiments with cattle, which seem to show that the period of heat at which a cow is bred has an influence on the sex of the calf.

Altogether, 558 breeding operations were conducted. When the cows were bred early there was a proportion of 75 males for every 100 females. When the cows were bred late the rate was 175 males for every 100 females. The conclusion is that the cows bred early in heat are over twice as likely to give birth to heifer calves as to bull calves.

Further importance is given to these experiments for the reason that taking all of the progeny together the result averaged about the same as if the breeding operations had not been artificially controlled. There were in all 278 bull calves and 280 heifer calves, which is about the normal half and half.

Doctor Woods concludes that "the sex ratio in cattle can be to some extent modified." This is a very reserved statement when one considers what Doctor Woods actually accomplished.

Another interesting experiment in controlling sex was conducted by C. M. Gallup, a Connecticut poultryman, who gives the following account of his work:

"Such success has attended my latest efforts to control sex in poultry-breeding that I believe painstaking stockmen generally, and dairymen in particular, will be interested in the theory and practice involved. In common with the experience of others, I have hitherto had cockerels predominate in my early hatches, but this time the pullets outnumber them nearly two to one. And the result is no mere accident either.

"Extended observation had convinced me that ordinarily cockerels predominated in the early hatches and pullets in the late. The usual explanation of this is that the sex of the offspring tends to follow that of the more vigorous parent. Certainly this explanation fits the facts in the case of the average cockerel that is vigorous and active at the beginning of the breeding season but more or less run down towards the end. With the hope of learning some way to offset this apparently natural tendency, I read the latest investigations and there struck what I believed to be the clew.

"From where the sperm cells of the male start, to the place where the egg of the female lies waiting to be fertilized, the journey is a race for the microscopic creatures which the biologist knows as 'spermatozoa.'

"Now, while the egg lies practically dormant with vigor about constant, the spermatozoa are exceedingly active. Furthermore, they are not provided with any food supply, and from this I reasoned that if their final journey could be delayed they would become tired. In that case the ovum would be the more vigorous of the uniting pair, with the changes then in favor of female offspring. The problem of producing females thus became one of simply delaying actual fertilization for a time after mating.

"With poultry this is comparatively simple. It is a matter of common knowledge that a hen will lay from four to six fertile eggs after being entirely separated from the male. With this fact in mind I reasoned that all the fertile eggs thus laid after a single mating, with the exception of the first, would have a delayed impregnation, and should produce pullets. To test this idea I took five leg-banded hens in March and put them in a coop equipped with trap nests.

The Method is Easy to Apply

"The cockerel I put into a second pen conveniently near the first. Then, with the aid of a tally sheet tacked on the wall, I saw to it that each hen was mated once for every three eggs. I discarded the first egg after mating, and used the other two for hatching. I set 76 eggs from this pen, all but one of which were fertile, and all but three actually hatched. I lost about the usual percentage, but when they were old enough to be sure of the sexes I had 21 cockerels and 39 pullets. Meanwhile the cockerels had predominated in the hatches from the other pens about the same as in previous years.

"After considerable inquiry among cattlemen I am satisfied that actual impregnation may be delayed by exercising the female for a time following service, and female progeny thus secured. I find that nearly all dairymen who keep bulls report an excess of bull calves. The common practice is to bring the herd to the barn about sundown, and if a cow appears in heat have her immediately served, and then put into a stall for the night. Conditions are then ideal for quick impregnation, and naturally a bull calf is the result more than half the time. On the other hand, the farmer who keeps no bull is more likely to let the service go until morning. He then takes her away, and in bringing her back she is exercised enough to delay impregnation and, in a large majority of cases that I have investigated, produces a heifer calf.

"Now of course this is no mechanical proposition, but the theory, as I have explained it, seems to fit the facts of every case I can find. Certainly it seems as if it would be worth while for the man who desires his cows to drop heifers to have the service delayed until morning, and then have the cows exercised by turning them direct to the pasture or being led about for an hour or two."

Mr. Gallup's observations sound plausible; and he is not alone in the belief that delayed impregnation of the egg (or, as it is called in mammals, the ovum) results in the birth of females.

Here are a few more interesting things which concern inheritance through only one sex:

Color blindness, for instance, is very rare among women, though common with men. But curiously, women are the only ones which transmit color blindness.

If a color-blind man marries a normal woman and they have a son and a daughter, the son will not be color-blind, neither will he transmit the color-blind character to his children. But the daughter, though not color-blind herself, is said to be a "transmitter." If she marries, half of her sons, on an average, will be color-blind. This curious happening is known as sex-limited inheritance.

In just the same way as this the barred plumage in poultry, also egg-laying ability, is transmitted from one generation to another. All the chicks will be barred if a Barred Rock cock is mated with a Black Langshan hen. But if a black Langshan cock is mated with a Barred Rock hen, only the cockerels will be barred. Light barring is a character limited to males. Barred Rock cocks are nearly always lighter in color than hens. Egg-laying is a sex-limited character also. If a splendid layer is mated with an ordinary cock, the pullets will be just ordinary layers, but the cockerels will inherit the egg-laying character of their mother and stamp this on their own daughters, about half of which will be as good layers as their grandmother on their father's side. Just read this last sentence over again, and it will not appear as complicated as perhaps it did at first.

The lesson from all this is: "If you want your hens to be good layers, always select breeding cocks from the sons of good-laying hens."

Making Heredity Work for You

Of course, to get such results the first good-laying hen must come from a family of good-laying hens, and not be simply an accidental "sport" with no special egg-laying ability in her breeding.

Another curious thing about heredity is the way that certain characters are found together. Steers with wide muzzles are generally admitted to be excellent feeders. Darwin, the great naturalist, says that "white cats with blue eyes are almost always deaf." Also, "black dogs with tan-colored feet almost always have a tan-colored spot on the upper and inner corner of each eye."

Some characters counteract others, and are said to be dominant, while those that are counteracted are recessive.

The parent that has the dominant character will stamp the offspring most strongly, and in most cases the first generation will resemble that parent. In poultry the rose-comb is dominant over the single-comb. If one parent (either sex) is a pure rose-comb breed and the other is single-comb, all the chicks in the first generation will have rose combs.

Black corn and red corn are both dominant over white. Wheat that does not resist rust is dominant over rust-resisting wheat. Beardless wheat is dominant over bearded wheat.

The good breeder never takes things for granted. Just because white is recessive to red and black in corn, you might conclude it was in other things and be right, but only partly so. White sheep indeed are recessive to black sheep. But the white breeds of pigs are dominant over black. Horns are recessive in cattle but dominant in sheep. Then again, with some characters you get a mixture or blend. Roan cattle are the result of crosses between white and red. The roan color is a mixture. A red primrose crossed with a white gives a pink primrose—a blend.

In some cases breeders have been impatient for the desired results and have attempted to aid Nature in various ingenious ways. S. R. Marshall of Ohio cites the effort of a breeder of Angus cattle to eliminate white markings which kept cropping out in his cattle which otherwise were pure black. This breeder painted all his fences and buildings a solid black color, and in a few years the offspring from his black and white cattle were all black. This is an interesting coincidence, nothing more. Of course the color of the barns and fences had nothing to do with the color of the calves, which is a very fortunate thing. Otherwise we should have green calves from cows on a green pasture, and white calves from cows kept out of doors in winter when snow is on the ground. In stock breeding where the females greatly outnumber the males, the males are most important because they have so many progeny. That is the reason you can get good results from a pure-bred sire and scrub females, but not with a scrub sire and pure-bred females.

EW

A Song for April

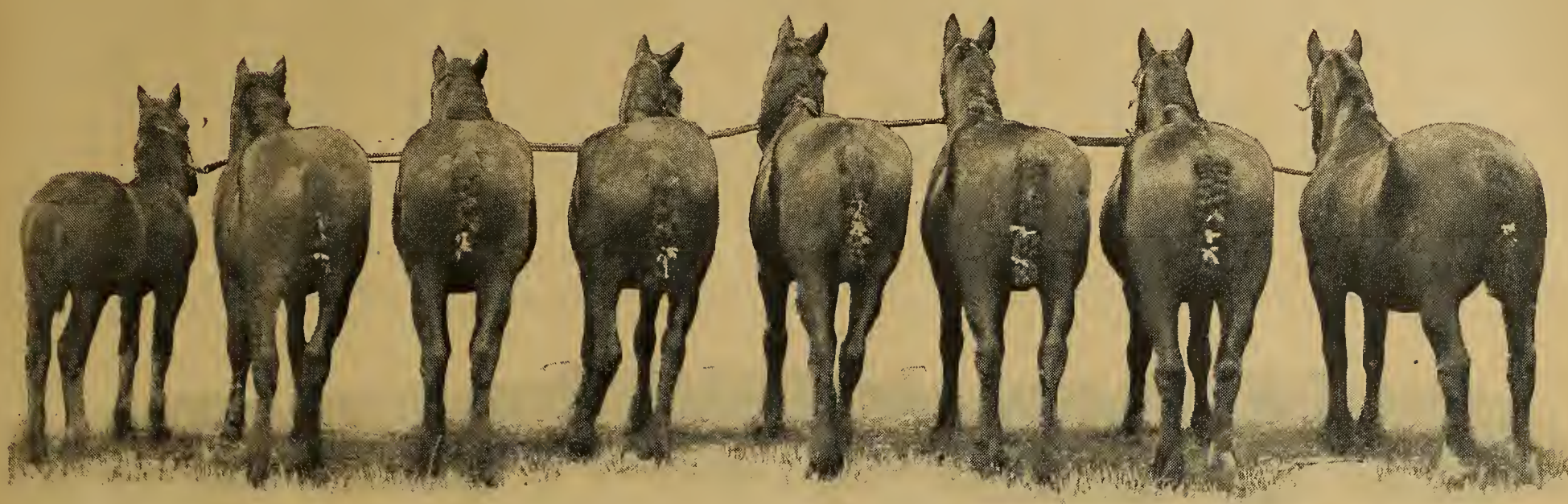
IT ISN'T raining rain to me,
It's raining daffodils;
In every dimpled drop I see
Wild flowers on the hills.
The clouds of gray engulf the day
And overwhelm the town;
It isn't raining rain to me,
It's raining roses down.

It isn't raining rain to me,
But fields of clover bloom,
Where every buccaneering bee
May find a bed and room;
A health unto the happy!
A fig for him who frets!—
It isn't raining rain to me,
It's raining violets.

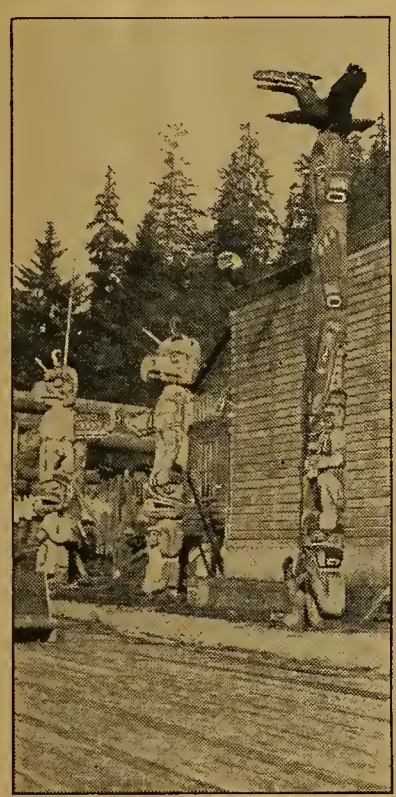
ROBERT LOVEMAN

Snap Shots

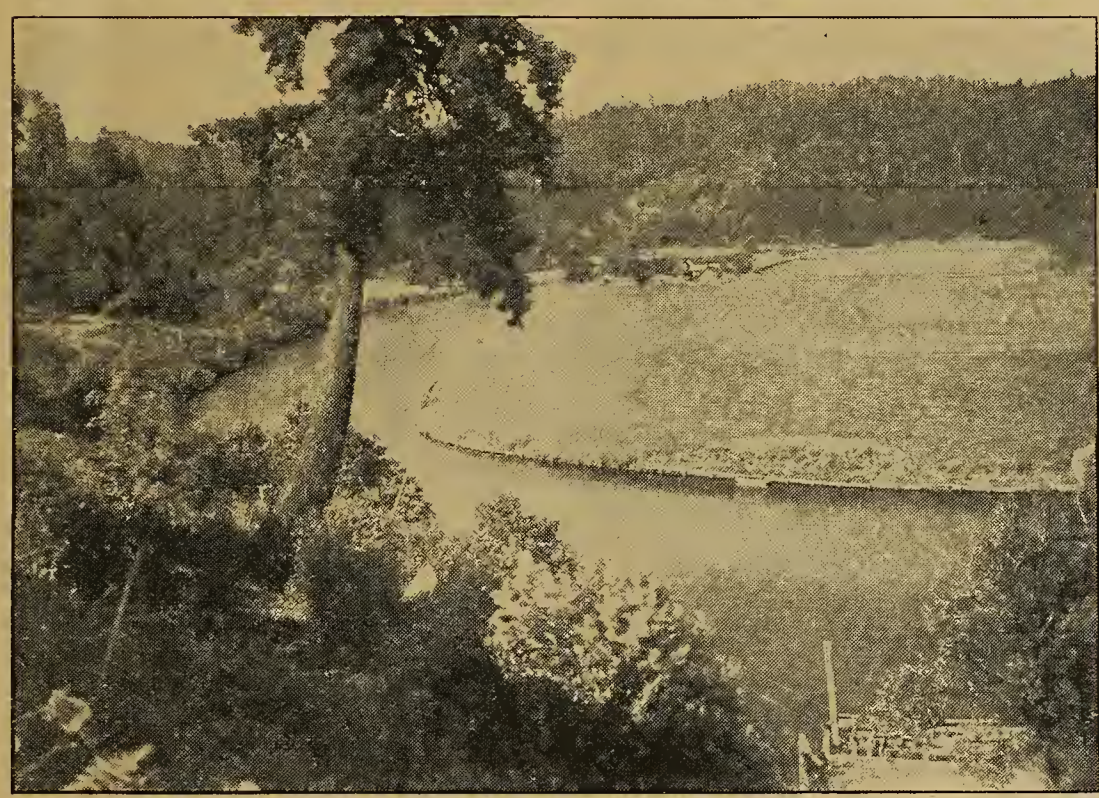
Taken by Farm and Fireside Readers in North Dakota, British Columbia, Oregon, Kentucky, Michigan, Colorado, and California



Eight years ago John D. Parkman, a North Dakota farmer, paid $150 for a young mare. She has proved her value as a brood mare by bearing the eight animals shown in this picture, worth, according to Mr. Parkman, $2,000. "Not so bad," he adds, "as a starter for my stock farm!"



The Indians along the coast of British Columbia are termed Siwash. This picture shows three typical Siwash totem poles, erected as emblems of the clan or family



A bottom-land farm in the mountains—finest farm in the world and hard to find. This one is along the Coos River, Oregon

Col. M. H. Crump, road engineer of Warren County, Kentucky, in his working clothes. Colonel Crump is proud of his county government, and is glad he has a part in it

Our own soldiers. In the three pails the water is heated for washing the dishes, while the garbage is burned by the intense fire between the piles of rocks

The friends of the farm! There are many of them. A. T. Slocum of Michigan, who posed for this picture, claims these two as his

Major W. J. Lyster, U. S. A., invented this hemp water-bag. In it the drinking water is purified by means of chemicals which do not affect the taste

This onion field yielded 1,225 bushels an acre. The onions sold for $2.75 a 100 pounds. The proud grower is C. S. Pope, and this field is on his farm, which is in western Colorado. Mr. Pope specializes in Mountain Danvers onions

This picture shows California lemon trees growing under cloth. It is believed that this protection from the sun will increase the size of the lemons so that the expense of $100, the cost of materials in the covered framework, will be justified

Johns-Manville Service and Responsibility have been my greatest asset in assuring roofing satisfaction
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of the Gundlach Machinery Co., Belleville, Ill.

Everyone around Belleville, Illinois, knows this contractor and knows that a Johns-Manville roof is a roof you can depend on because of

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J-M Transite Asbestos Shingles
Fire- and Weather-proof, last forever. Highly artistic.

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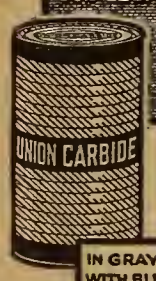

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Safest Light and Cooking Fuel
Insurance records prove it

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A hundred feet of acetylene makes more light than a thousand feet of city gas. For this reason acetylene light burners have small openings—so small that not enough gas could escape from an open burner—in a whole day—to do any harm whatever.

Also, acetylene gas is not poisonous to breathe—you would suffer no harm in sleeping under an open unlighted burner. Also, acetylene burns with no odor whatever—but acetylene from an unlighted burner has a strong pungent odor which immediately attracts attention.

Also, acetylene lights are permanently fastened to walls and ceilings—they cannot be tipped over.
Also, the acetylene producing stone, UNION CARBIDE, won't burn and can't explode.
For these reasons insurance authorities have pronounced acetylene safer than illuminants it is displacing.

Our advertising literature tells all about the best way to make acetylene for country home use, and how it is used extensively for cooking as well as lighting. Just address—

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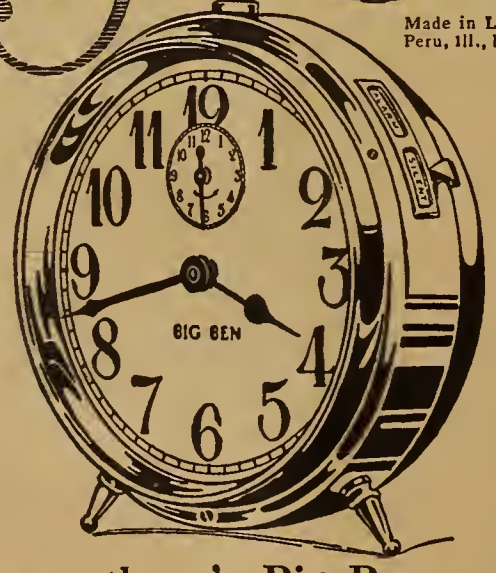
Big Ben

Made in La Salle and Peru, Ill., by Westclox



—there's Big Ben

What if some important job calls for a get-up long before sunrise?

What if the household must be astir for a prompt breakfast right on the scratch?

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Big Ben will get you up and out either way you tell him—with a straight five minute call or ten successive taps at half-minute intervals.

His pay for service is $2.50 in the States—$3.00 in Canada. If your jeweler hasn't him, a money order addressed to his makers, *Westclox, La Salle, Illinois,* will put him in your employ.

Farm Notes

That Faulty Spark Plug

By Gordon L. Horton

MOST automobile owners are well enough acquainted with the mechanism of their car to be able at once to tell when a cylinder quits firing and the manner of finding out which one or ones are not working. Some prefer to take out the plugs one at a time and lay them on the motor with wire connection on until the one that fails to spark is located. Others loosen the wire from spark-plug terminal, and hold at a short distance for the spark to jump.

The first method is not advisable, as a spark plug may fire in perfect order when out of the cylinder, but when replaced will refuse to work under compression.

The quickest and most positive method is that of "shorting" the current from the spark plug terminal to the cylinders by the use of a screw driver. But do not use a screw driver with metal running all the way through the handle. Lay the blade of the screw driver on spark-plug terminal and cylinder. The electric current, of course, will be carried by way of least resistance and fails to jump the point gap. Carry this operation from one plug to the next until the one is found that does not seem to retard the motor speed. This will be the faulty plug.

After this method has been tried a few times you can quickly detect the dead cylinder.

Cleaning spark plugs is more important than is generally supposed. A thoroughly clean and adjusted plug is necessary for good ignition. To clean a spark plug, remove the porcelain from the base, also the wire core from the porcelain, providing the core is threaded and fitted with nut and lock washer. Some are sealed solid in the porcelain. In this case the only way to clean the lower inside of porcelain is to use a small penknife blade with a piece of cloth. If the core is removed from porcelain, repack with asbestos rope packing after cleaning. Tighten core in porcelain as tight as possible by holding porcelain in the hand.

Never use emery cloth, sandpaper, or knife blade for cleaning outside of porcelain. They will scratch the enameled surface and allow carbon to form more readily. Ordinary brass polish is ideal for cleaning and polishing porcelains.

Close examination of porcelains after they have been cleaned will often show a slight check or crack perhaps, running part way around. This is often the cause of an uneven running motor. No matter how small the defect, use nothing but a perfectly sound porcelain. A crack so small that it would not be noticed except under close examination will let the oil seep through and cause an aggravating miss-fire.

A Tongue Twister

PARA-DICHLOROBENZENE (pronounced, pear'-a-die-chlor'-o-ben-zene') is a new insecticide which the Government says is non-inflammable, harmless to human beings, and odor not very bad. It comes in crystals and costs about 25 cents a pound.

You don't need to sprinkle it around, but simply expose it in a room. As it evaporates it will kill moths, flies, roaches, ants, and similar pests. Just what is in it that does the killing is not explained. Perhaps it's the name.

New Books

PLANT-BREEDING, by L. H. Bailey, has just appeared in a revised edition, the revision being done by Arthur W. Gilbert of Cornell University, New York. The book is comprehensive on the theme of plant-breeding, is intended primarily as a textbook, but will interest anyone who is a close student of nature. It is well illustrated. Published by The Macmillan Company, New York. Price, $2 net.

To treat the broad field of fruit-growing in any one book is a job of immense proportions. What comes nearest to accomplishing this task successfully is the book, THE PRINCIPLES OF FRUIT-GROWING, by Liberty H. Bailey. This is the twentieth edition, which has been almost entirely rewritten and brought down to date. It is a mine of fruit-growing information by an acknowledged authority. Macmillan Company, New York City. Price, $1.75.

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The supreme test of paint is the way it holds its own against weather and time. The best paint manufacturers have found that

Zinc

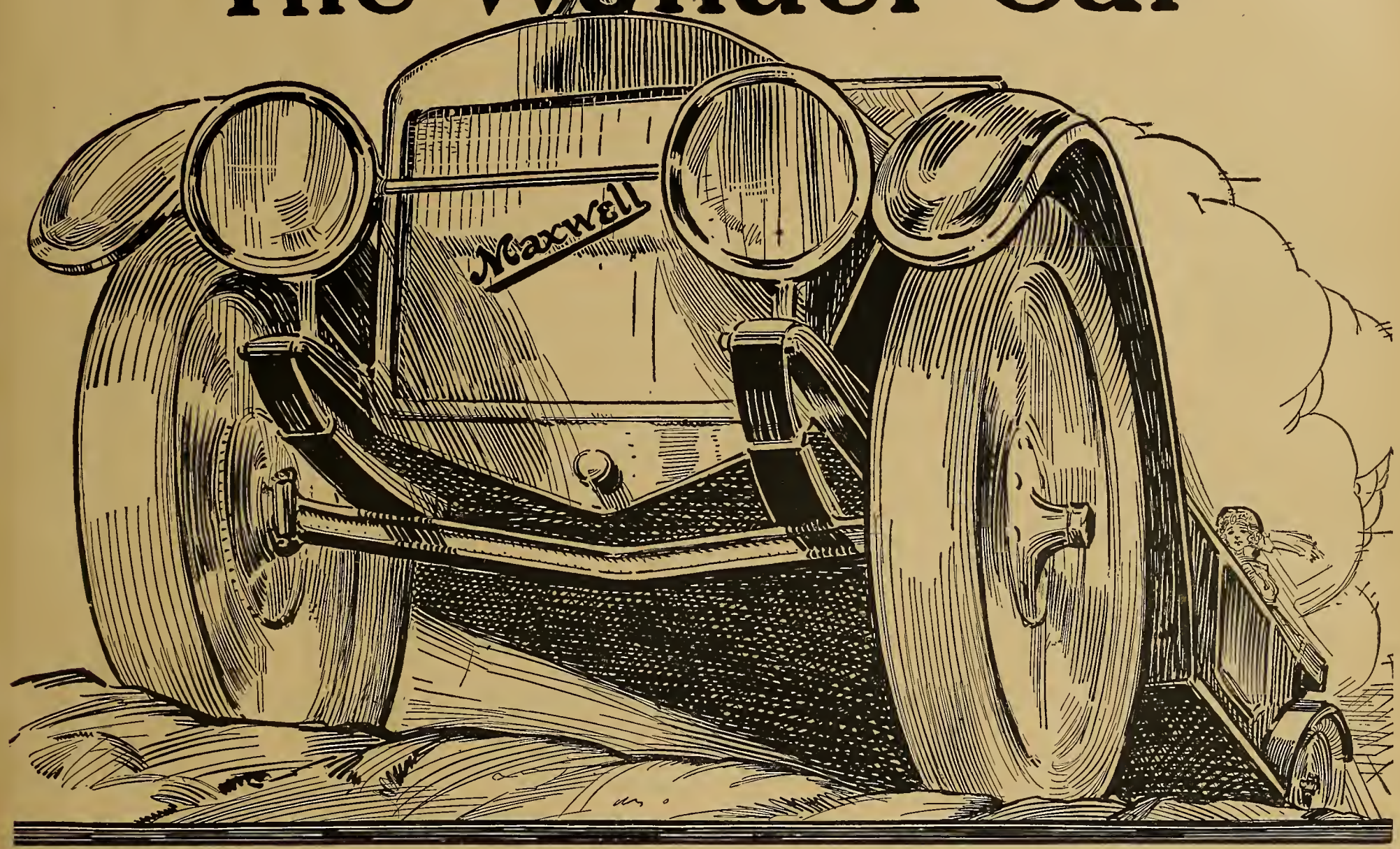
in paint forms an impervious coating. Such paint should be of interest to every farmer.

Let us send you a list of manufacturers whose paints contain Zinc, and also our interesting booklet entitled "*Your Move.*"

The New Jersey Zinc Company
Room 451, 55 Wall Street, New York

Maxwell

"The Wonder Car"



You can own an exact duplicate of "Wild Bill" Turner's or Billy Carlson's record-breaking Maxwells

Think of owning one of these same Maxwells—think of driving it wherever you want to—over any kind of roads—up any kind of hills, wherever four wheels can go, the same car for $695.

Remember every "1915" Maxwell is an exact duplicate of the regular stock Maxwell Touring Cars in which "Wild Bill" Turner broke the world's record up Mt. Hamilton, 21 7-10 miles in 48 1-2 minutes, beating the world's record by 16 1-6 minutes, and "Billy" Carlson broke the world's record up Mt. Wilson, California, making nine miles (up an elevation of 6,000 feet) in 29 minutes and 1 second, beating the previous world's record by 13 minutes. That's the kind of hill-climber you get when you get a Maxwell. But, aside from hill-climbing and speed, power and endurance records, the Maxwell is a comfortable car, a beautiful car, and gives real automobile service.

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No other automobile is backed by a more reliable service than that guaranteed every Maxwell owner. More than 2,000 Maxwell dealers—in every part of this country—are always ready to give expert advice, to make adjustments, and to supply new parts at reasonable prices.

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Maxwell Five-Passenger Touring Car,	$695, f. o. b. Detroit.	In Canada, $ 925.
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Order a Maxwell now, and when you want it, you will get your car—not an excuse on delivery day

Write for beautiful 1915 Maxwell Catalogue. Address Department A. G.

MAXWELL MOTOR COMPANY, Inc., - - Detroit, Michigan

"EVERY ROAD IS A MAXWELL ROAD"

E-W

FARM AND FIRESIDE

THE NATIONAL FARM PAPER

Published every other Saturday by
The Crowell Publishing Company, Springfield, Ohio

YOU'RE on the jury. Ever realize how many decisions of different kinds you make even in a day? And we know you like fair play.

So when you see any opinion advanced or statement made in FARM AND FIRESIDE that seems to you unfair or biased, speak up and say "Fair Play!" This issue, and every other issue, is open to criticism or approval in more than half a million homes besides your own. It's so easy to condemn on appearances. Give us your views and reasons on the other side if you think only one side has been given. Even if you have only something nice to say, send it along.

HERBERT QUICK, - - - - - - Editor

April 10, 1915

War and Temperance

"IT IS an ill wind that blows nobody good."

War is certainly an ill wind, but it does blow the world some good. We have read of the wonderful emancipation of the proverbially drunken Russian people from the curse of drink. Every bit of news we get from Russia shows that the common people now for the first time breathe the breath of freedom from the blight of alcohol.

Similar tidings come from Japan. So strongly do the Japanese people feel that the drinking of their beer, called "sake," hinders them, that the breweries have lost a third of their trade since the war began.

France has prohibited the manufacture or importation of absinthe—their worst drink.

And even Great Britain and Germany are feeling the impulse to get rid of the drink evil. Chancellor Lloyd-George of England says that it is hard to get a full week's work out of their workmen on account of drink, and that the Government means to deal with the question "in a spirit of moderation, but fearlessly."

War to-day calls for efficiency, and efficiency and drunkenness do not mix.

The Test of a Milker

GERMANY'S greatest authority on breeding is probably Dr. George Wilsdorf. Speaking of the "dairy type" of cow, Wilsdorf says: "It has not yet been proved that any certain characters or forms give any reliable indication about the milk yield of a cow."

Another German, Gaude of East Friesland, found by testing a thousand cows that "the probability of recognizing 'milk indications' is very slight."

Does this mean that there is no way of telling a good cow from a poor one, or a good breeding bull from a poor one? Not at all.

If both sire and dam are the offspring of a long line of heavy-milking cows, the heifer will be a heavy milker. The test of a milking cow is giving milk, *not* "dairy type."

The pedigree which shows performance is the only one which shows the pertinent facts.

Clubs That Count

THE county agent in Atascosa County, Texas, has organized a boys' club which combines good farming with the primal hunting instinct in man.

It is a rat-killing club.

All the boys start in as high privates, but the soldier with a record of a hundred rats becomes a corporal.

A sergeant must have killed 200.

A second lieutenant's commission goes to the slayer of 500.

Probably the rats will not last till the army secures a general, but rats are numerous, and one never can tell.

No more seriously useful work can be undertaken than this one of exterminating rats, and after the rats are gone Mr. Kloppenburg, the county agent, has other labors for the army, including the trial by court-martial of the various birds to determine whether or not they should be killed, the improvement of the roads, and the like. It is to be hoped that the fly will not be allowed to escape.

Perhaps the girls can be enlisted in disposing of them. Mosquitoes, too, are a formidable foe to the human race. Incidentally, these boys and girls will be educating themselves in many things, and not the least of these will be the ability of working together.

Some day the boys and girls of the clubs will take hold of this country by the four corners and do things with it.

On the Farm

THERE is backache on the farm, and chapped hands, and chilblains, and lame feet, and bathless homes, and solitude, and excess of tasks over strength, and babies born without adequate care for either mother or child, and boots plastered with mud and manure, and clothes smelling of the barn, and disgusting things to do for and with the live stock, storms which sweep away the chance of a year's wages, insects which spring up from nowhere and ravage the growing things, plagues which threaten barn and byre, cows which kick, young things which refuse to live up to their breeding or nurture, cracks in the fingers, dust in the lungs, barley beards in the eye, chaff down the back, stumps and stones, and sprouts and weeds.

Nothing comes out as it was planned, because weather and bugs and fungi and parasites are not planned—by the farmer. These things the book writers and rural romancers do not know. If they did we should begin to get really great farm literature. We should get its darker aspects, blended with its glories—and its glories are many.

All of them seen by the dabblers in rural literature are there, and much they do not see. They do not see, for instance, that on the farm is the one place in American life where wife and children may healthfully and happily do their part in making a living. On the farm the woman and the man still work side by side as of old; and, in the main, they are rewarded by safety and security if not by wealth.

One of these days the lights and shadows will be blended in real literature—the backache with the glory of the overarching sky seen by the laborer when he puts his hand on his back, straightens up, and sighs for weariness.

Roads and Land Values

THE building of a great deal of fine paved roads in Manatee County, Florida, has shown how good roads affect land values. From 1911 to 1912 land along these roads increased on the average $20 an acre, while lands a mile from the road increased only $10 an acre.

Dinwiddie County, Virginia, is another instructive case. The building of 125 miles of fine roads caused land adjacent to the roads to increase in value from $24.25 to $30 an acre, while lands ten miles away increased an average of $16.32 an acre.

The State builds the road, and the landowner sells it if he sells the land. That would look queer to a man from another planet. The man miles away is taxed to build roads, and the people along the pike get the selling value of them. Rather queer, too, when one thinks of it a few minutes.

The figures are a powerful argument for good roads, and also for a better way of apportioning the burdens and benefits.

Looking at Seeds

WE HAVE never actually looked at many of our common seeds. It will pay to look at them. That great scientist Agassiz once placed in the hands of a class of students a lot of grasshoppers. When the young people laughed he began showing them things they had never seen in the appearance of the insects. "Study with me a while," said he, "and you will be able to see things still more interesting. All you need do is to look more and more closely."

Can any of the readers tell the seed of yellow sweet clover from that of the white? Two years ago it was said by professors of botany that they could not be told apart. Any good seedsman now can distinguish them at a glance. We have looked at them.

It is said that the seeds of Sudan grass cannot be told from those of Johnson grass by the looks of them, but we are now discovering that the best strain of Sudan has what is known as the "cream hull" seed. It is lighter in color than Johnson grass. One of these days we shall all learn to tell commercial Sudan-grass seed from the pestiferous Johnson grass.

All these things will be done in the public schools when they are ruralized as they should be. Looking closer and closer at things is real education.

Our Letter Box

The Vets Are All Right

TO THE EDITOR: I wish to say that your "The Inspector's Mailed Fist," telling about the New Jersey case of foot-and-mouth disease, seemed a bit fishy. You say seven inspectors were on one man's farm. That seems absurd, from my experience under the Bureau of Animal Industry.

Now, what was the opinion of the other five? You do not state. You say Doctor Lucky, state veterinarian of Missouri, frankly admits that none of his force were familiar with the symptoms at first. This follows the comment on the United States inspector, making it appear that they also were not familiar with the disease, whereas the great majority have been through several outbreaks.

It is just such comments as you have printed that cause United States inspectors to have dogs set at them or be met with the smile of a double barrel.

So far as I am able to see it is one-sided, and thereby productive of much harm in already overexcited areas, as for instance Illinois.

There are thousands of just such stories afloat to hinder the work of eradication. It does seem a pity that such tales should still appear in a good paper like FARM AND FIRESIDE.

HOMER A. YAHN, V. M. D.

Doctor Yahn did not read our editorial correctly. We would ask him to note it again.—EDITOR.

How Shall We Get Together?

EDITOR: Reading the writings in your valued paper by Mr. Welliver, and others, concerning the farmer's situation, it has always appeared to be a curious thing that the farmers as a class cannot get together in a national organization which would be powerful enough to see that legislation was proposed and put through for the farmer's benefit.

The new reserve banking act is a fine thing for the bankers and for preventing panicky conditions, yet where does the farmer come in? One result in this immediate section was that farmers buying their fall fertilizer for wheat, for which the majority heretofore gave notes to the dealers at one year, supposedly for the purpose of enabling them to get the money out of that crop, were required to give six-months notes plus endorsers, maturing mostly in May and at a time when the farmer is neither harvesting nor marketing any crop. Of course this being the first call, the dealer excuses his demand by saying the banks now require six-months paper, and that it can easily be renewed (?) of course, compounding the interest.

The same rule applies to feeding cattle, usually bought in October and November and marketed the following fall.

I have always believed that credit easy to get was apt to be abused by a great many people, yet the farmers themselves should have some credit system by which they could get money for legitimate purposes at reasonable rates without begging for it or mortgaging their homes. Credits on farm machinery are not long enough, being usually only six months. Fertilizer credits should certainly be long enough for the farmer to harvest the crop and market it.

Take this section here in Virginia. Nearly every farm is fenced for cattle and horses, but comparatively few will exclude dogs or hold sheep and hogs. Result: the two best-paying farm crops in a country especially suited to them cannot be raised. The principal stumbling block is the cost of proper fencing. Suppose a farmer wants to raise sheep, starting with say 20 bred ewes in the fall.

They would cost him from $100 to $150 cash, and he could expect to clear $100 from the lambs and wool inside a year. But when he begins to figure the fence, notwithstanding it still gives him an excellent percentage of profit, he pulls up short, probably because he hasn't the cash on hand to buy both sheep and fence too, along with other expenses; therefore he has to let the scheme drop.

Thousands of farmers are in this fix, and yet if suitable credit could be obtained for the investment, or even half of it, it could be met within a year, and the farm, the farmer, and the public all be better off. The average farmer, even though making a comfortable living, doesn't handle very much cash. And when he wants to make improvements under present methods, security that can't get away, mostly in the shape of a real-estate mortgage, is required, and most people do not care to mortgage their homes except in cases of extremity.

Apparently the only relief for matters of this kind must come through Congress, and not from there until the farmers get an organization strong enough to make the various Representatives and Senators realize that it is time to do business without the usual wrangling.

What the G. A. R. organization has done for years, and the rural carriers are now doing, could easily be done by the farmers.

Any Congressman getting a definite outline of action wanted, if he knew that it came from an organization "back home" of some of his farmer voters and found that all of his colleagues were getting the same, would mighty quickly make up his mind which way he would vote, and would be very anxious to be the first to introduce the bill.

Can't some of your readers who have good executive heads scheme out a plan to get the farmers and the various organizations together into a solid working unity? H. WATERS, Virginia.

A Student at Thirty-Four

FARM AND FIRESIDE: "The Brown Mouse" touches the spot that I have been driving at for the last eight or ten years, or ever since I awoke to the realization of what I got in school that I didn't need.

When I get to thinking of what a lot of hours I have put in of evenings and odd times the last eight years, getting some idea of the best use of feedstuffs, getting a knowledge of milk, of fruit-growing, vegetable-growing, apiculture, and so forth, and how to apply mathematics to these different branches, and how to talk intelligently of them and work with them to the best advantage and also take pleasure in the work, which one can't do without a thorough knowledge of them, I almost feel like saying that what time I spent in school was almost lost.

And when I see common-school students and high-school students and graduates come in contact and attempt to grapple with some common, every-day problems, I am brought to the realization that it is as Mr. Bonner says (using Mr. Bonner's statement) "that in order to l'arn anything you should study somethin' else."

I find myself at the age of thirty-four studying the things from agricultural bulletins and books that I should have learned in school in the common grades.

Our schools should be to our children the trail that leads them back home, instead of the barrier they are.

E. SPANGLE, Indiana.

"As Others See Us"

I SHOULD sooner think of getting a divorce than of getting along without FARM AND FIRESIDE!

MRS. A. W., Minnesota.

HAVING taught in the public schools and now being a farmer's wife, I can heartily stand for "Jim Irwin's" method of teaching rural schools.

MRS. M. B. F., Ohio.

I AM glad you omit the trashy little ads that are injurious to boys and always claim to give something for nothing. I have a family of seven.

J. M., Nebraska.

DEAR MR. QUICK: I like your talks and your bold appearance. You preach better poultry, and have been the cause of my cutting out my scrub roosters. All of them got it in the neck with the ax and passed into the pot. The result is as nice a flock as you ever saw.

W. M., Kentucky.

YOUR insane hatred of dogs puts you in a class with men I have known. They hated virtue; they hated courage; they hated duty; they hated fidelity and loyalty. They would betray their wife, their friend, their country. I don't have to associate with such. B. F. S., Ohio.

How to Use Your Camera

By HARRY C. PHIBBS

Though slightly out of focus, this picture was well-timed. The lights and shadows are well distributed

THE main reason why bad pictures are taken is the habit of blindly pressing the button and trusting to luck, hoping that the camera will give a faithful record of everything at which it is pointed. A camera, like every other machine, needs intelligent handling to make it produce the best results.

The background of this picture should have been more carefully selected. It is too nearly the color of the horse

The difference in the time needed for exposure on different subjects seems to be the biggest pitfall of any in the way of the amateur photographer. Most people who get a camera into their hands cannot see why it should make any difference whether they are taking a picture of the dog sitting in the barn doorway, or taking a general view of the country from the top of the neighboring hill. But it does make a difference, and a big one.

The length of exposure is regulated by the amount of light which is reflected from the subject to be photographed. This amount of light is affected by the time of the year, the time of day, the amount of sunlight, and the distance of the object from the camera.

Most photographs taken by the amateur come under a few general headings. Landscapes, for instance, include a picture of a river, a beach, a snow scene, or a distant view. These all fall under one rating for exposure.

Nearly all cameras are made with diaphragms or some sort of device for admitting more light or shutting it out. The best cameras also give you control over the speed of the shutter.

Before you take a picture you should ask yourself such questions as the following:

Is this the best possible view I can get?

Is it really worth taking?

Can't I get a better background?

Are the lights and shadows well distributed?

Have I planned for the right exposure?

By studying the negatives and finished prints the amateur can learn where his judgment was good or bad, and he will not repeat the mistakes. Then he soon begins to get a good picture from every exposure, and the camera becomes an endless pleasure.

EDITOR'S NOTE: We are printing what Mr. Phibbs has had to say about the camera because of the interest FARM AND FIRESIDE readers are taking in our photo contest. This contest closes July 1st. You can plan some good pictures before that time. We are going to give $100 in prizes: $25 for the best picture, $15 for the second best, $10 for the third best, $5 each for the five next best, and $1 each for the twenty-five next best. We want the pictures to be about the proportions of the photograph used on the cover of this issue of FARM AND FIRESIDE. Send your work to Photo Contest Editor, FARM AND FIRESIDE, Springfield, Ohio.

Photos with people or animals in them are usually most interesting. The interesting cloud effect is the best part of this picture

Agrees That the Vice is Senseless

DEAR FARM AND FIRESIDE: The undersigned deeply sympathizes with your Michigan correspondent who worries over the fact that so many of his neighbors are profane swearers and asks the question: "Can anyone tell me what we few who care what kind of talk our children hear and use are going to do about it?"

With a view to helping him and any others in like circumstances, I am moved to give my experience:

When I was a small boy my little brother and I were obliged to associate for years, in going to and from the district school, with a family of neighbor boys and girls who indulged to the extreme in profanity and vulgarity. I think I can truthfully say, however, that in all my life of now seventy years I have never uttered a word of profanity, nor have known my brother to do so.

How do I account for it?

I account for it by the fact that we had the training of Christian parents who seriously and faithfully warned us of the fact that to use the name of God in vain is a great sin.

So I remember very distinctly that when within hearing of profanity I shuddered and was so disgusted that I had no disposition to follow the example of my associates. This feeling has remained with me through life. This then is the remedy.

It is true, as the writer says, that "we can't keep our children by themselves," but we can so instruct them that they will be impervious to the influence.

Allow me to add one other item of personal experience: I never allow boys or men to use profanity on my premises. A few years ago when we were filling our silo one of the helpers, a well-to-do and rather prominent farmer, began at the dinner table to deliver himself of some very profane words, whereupon, as host, I immediately informed him that it must be stopped, that it was against the rules of our house. That ended it, and I could see at once that my little display of grit was heartily appreciated by the rest of the crowd.

It is wonderful what cowards these profane blusterers are.

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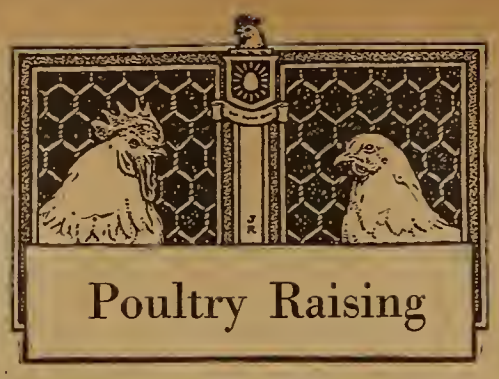

Poultry Raising

Breed Out Broodiness

By B. F. W. Thorpe

MANY a hen beginning as a pullet lays two or three weeks, goes broody, and after being broken up continues with this alternate program the year through or until the molt is begun.

If a time card were kept of many such hens, at the end of the year their record would stand: on the laying job, 30 weeks; and off the job, 22 weeks. A liberal estimate for such loafing broody hens is 8 to 10 dozen eggs in the year, and a net profit of not over 25 to 50 cents above the cost of their feed.

The main reason why some of the smaller breeds known as non-sitters lay more eggs is simply because they lose less time in broodiness. Therefore, one of the first things to do in breeding for heavier egg production is to breed out the broody trait.

Our egg-laying contests show us that the high-record hens of all breeds do not get broody, or but very seldom, and in that case are quick to resume laying after being broken up.

These egg-laying contests show entire pens of Rhode Island Reds, Orpingtons, Brahmas, Langshans, and Plymouth Rocks that lay the entire year through with hardly a sign of broodiness, regardless of the fact that these breeds have developed a reputation for too much loafing from this cause.

My breeding operations have convinced me that a pullet from a hen that is never broody is much less likely to have the broody trait than one having a mother that is continually going broody.

One particular hen, a Barred Plymouth Rock I used for foundation stock, was kept until four years old without once being broody. This hen laid 396 eggs during her third and fourth years of production. Out of the pullets hatched from her eggs, over one third proved to be non-broody, and most of the others laid from six to eight months at a time without becoming broody.

The hens of this stock that do show signs of broodiness are only half-hearted about it, clucking and singing by turns, and often starting to lay the third or fourth day when taken away from the nest.

Other strains of Barred Rocks that I have bred showed the broody quality in a pronounced degree, and would develop broodiness regularly every two or three weeks and start sitting with determination.

Here is a breeding field that has been worked only in a very limited degree. It is full of profit possibilities and deserves the attention on every farm where poultry is raised.

"PURE BRED" doesn't always mean good. In Utah fifteen hundred hens of one of the best-laying breeds were trap-nested for several years. The average first-year and second-year record of these hens was 124 eggs each. The next year they averaged 112.

Does Dust Bother You?

By A. H. Weisberg

I HAVE used crude oil on the floors of chicken houses for four years, and find it very satisfactory because:

It keeps down the dust.

It acts as a disinfectant and deterrent of mites and probably lice.

It does not evaporate quickly, thus making it necessary to use only twice a year.

It prevents scaly leg, keeping legs a bright yellow.

I apply the oil to the dirt floor before the straw is put in. It is best not to apply much at a time. A thin application may be followed by another in a few days, and that will suffice for months. I use straw litter, placing it in the house after the dirt floor has been treated with the crude oil. I cannot say that the oil prevents dust entirely, but it does keep it down to a very great degree.

One could apply more freely, and absolutely prevent the least particle of dust. I have not tried to do that, however, and don't think it advisable to soak the dirt with it. A little of it goes a long way.

I should advise beginners to use a very little at first and watch results, and, if needed, another application can be made.

If the crude oil does not spray readily, dilute with a little kerosene.

How Much Water Glass?

BEFORE long you will begin to think seriously of preserving eggs for next winter. But even though you have had considerable experience in this line, just how much water glass will be needed and how big a crock is necessary for a certain number of eggs are figures which easily escape the memory.

For the average family a 5-gallon jar is an excellent size. It will hold 16½ dozen average-size eggs. If you want more, consult the table for the additional capacity needed.

The best results in keeping eggs obtained with water glass are from a solution made up of one part of water glass and nine parts of water, though eggs will keep very well if as much as twelve parts of water are used to one of water glass.

The concentrated water glass costs at retail about 15 cents a pint.

The figures in the last column of the table are for the solution, and to get the amount of concentrated water glass you will need, divide those figures by ten. The cost is about 1½ cents per dozen eggs; and, as explained in a former discussion, water glass may be re-used if warmed and filtered through absorbent cotton.

The figures that are given below are adapted from an experiment conducted by George A. Olson of the Washington Experiment Station, and apply to medium-size eggs.

Size of Container	*Will Hold*	*Amount of Water-Glass Solution*
1 gallon	40 eggs	3¾ pints
2 gallon	80 eggs	7¼ pints
3 gallon	120 eggs	10¾ pints
4 gallon	160 eggs	14½ pints
5 gallon	200 eggs	18 pints
10 gallon	400 eggs	36 pints

A case is on record where eggs have been successfully kept for three years in water glass and were in good condition at the end of that time.

Eggs which have been newly laid and are infertile will seldom disappoint you, but attempts to keep them over one year are not advisable.

Old-time jimmy-pipers rally round the P.A. standard!

Col. J. S. Powell of Pensacola, Fla., 95 years old, and nephew of William Henry Harrison, the ninth President of the United States, has just been elected to the "old-time jimmy-pipers" club. Col. Powell has smoked for 85 years, breaking into harness as a ten-year-old. We will be glad to receive pictures of old-time smokers.

Copyright 1915 by R. J. Reynolds Tobacco Co.

Col J. S. Powell of Pensacola, Fla

Now, everybody sit around close:

Any farmer along the friendly road will tell you never to judge the depth of a well from the length of its pump-handle. Just like it's back-shuffling cards to choose your tobacco from *the looks of the package!*

Pick P. A. for pipe joy, and you'll be just as happy as a June bug in an apple tree. For it's mighty widespread news nowadays that Prince Albert is made by a patented process that *takes the teeth out of the smoke* and leaves your tongue as calm and peaceful as a harvest-moon night. That's *jimmy-pipe joy* that comes via

PRINCE ALBERT

the national joy smoke

While the spring's young, tune up that old jimmy-pipe and bud-out into a real and true pipe smoker. Sure enough, you'll be in full bloom before the day is done, if you'll smoke P. A. For there's no more teeth in it than in a mocking bird's tune box. *And let that drift into your system!*

Buy P. A. in toppy red bags, 5c; tidy red tins, 10c; pound and half-pound tin humidors—and that classy crystal-glass pound humidor with the sponge in the top that keeps P. A. so good.

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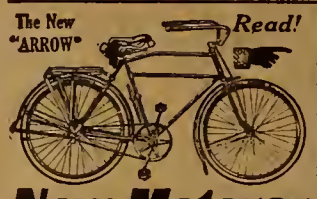

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E. J. Reefer, the poultry expert of 774 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

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and calendar of pure bred poultry; 70 varieties illustrated and described, many in natural colors. A perfect guide to poultry raisers—full of facts. Low prices on stock and eggs for hatching. Incubators and brooders. 22 years in business. You need this noted book. Send 10c for it—today.

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Chief of Subscription Staff,

The Crowell Publishing Company, Springfield, Ohio

A Tax Resolution

THE Grain Growers' Association of western Canada is purely a farmers' organization. Its views on taxation, as evidenced by resolutions passed in convention at Winnipeg on January 15, will be interesting to the American farmer.

Be It Resolved, that this convention of Manitoba grain growers strongly urge the Dominion Government to frame a fiscal system of national taxation that will bear justly on all classes, affording special privilege to none. That is, by a direct taxation of all land values, both rural and urban, including all the natural resources of this nation, forest, mineral, water power, and fisheries, so far as these resources are owned or operated by private or corporate interests, with a surtax on that part or all of such resources as are held out of use by private interests for speculative purposes.

This is no sudden conversion. This great farmers' organization has long shown itself to be aware of the fact that the farmer is the fellow who loses when the effort is made to tax everything both in sight and out of sight.

Our Backyard Oasis

By Estelle Cavender

"THAT pump and platform make such a barren-looking corner," remarked my sister. So together we set to work to build a fernery around the pump. First we put a large tile at its base and

Just the pump

But now an outdoor living-room

filled it with earth, sand, and ferns. With flowers around the edge of the platform this barren place became an outdoor living-room all summer.

Corn for the Silo

By C. R. Weidle

AFTER growing different varieties of corn from the early to the late ensilage, I feel free in giving my reason why I have grown Eureka ensilage corn for my silo the past three seasons, and intend planting it again this season.

I am not pretending to point to the most profitable variety of corn to plant for the silo. Climatic conditions form an important point in this matter. Yet I wish to say a few good words in favor of Eureka ensilage corn.

My plan in getting Eureka corn to mature ears here in northwestern Pennsylvania is to plant the corn in good season, then not fill my silo in the fall until the corn has had ample time to mature ears. By not filling my silo until about October 15th I gain this point nicely. Of course there is some risk of frosts freezing the fodder, but my experience has been that only about one year in four or five do we have killing frosts before October 15th and light frosts damage this corn little.

I prefer growing a large silage corn for the reason that only a few acres of it as a rule are required to furnish an enormous amount of silage.

Last season, from less than six acres I filled my silo to the roof about October 15th, and had nearly an acre left that would not go into the silo. We fed from the silo immediately, and left it settle until about November 10th, then refilled it to the roof again, and had about half a wagon load of corn left.

From the strip of corn that was left standing until November, well-ripened seed-corn ears were picked for planting this season. This seed corn will likely mature a week or ten days earlier this season on account of being grown here.

What pleases me is to have 8 or 10 feet of silage left in the silo, which I will have this spring. I shall use this for summer feeding after the pastures commence to fail.

Had my silo been filled with the early corn, at least 12 acres or more would have been required to furnish the same amount of silage as was grown on scant 6 acres with Eureka ensilage corn.

I find there is considerable less expense in filling the silo with a large variety of corn. With bundles of Eureka corn ranging in length up to 14 feet lying thick on the ground, and with good help and coal for fuel, I filled and refilled my silo last season with a blower ensilage cutter in 7½ hours. Both fillings would have filled a silo 11 feet in diameter and about 48 feet high.

I planted my Eureka corn 7½ inches in the row last season, but think I shall plant it about 10 inches this season. There seems to be very little difficulty in getting Eureka ensilage seed corn that will germinate well, where it is often difficult in getting other varieties to test over 80 per cent. Possibly someone who has tried this variety of corn under different circumstances may look at it in a different light.

Killing a Cricket

THE superstition that killing a cricket will bring bad luck is responsible for much damage done to clothes, curtains, and fabrics.

Lights in dwellings attract the large black crickets in the night time, and unless killed in some way they soon become a serious pest. Crickets have also been known to destroy rubber goods.

George A. Dean, state entomologist for Kansas, gives the following cricket poison:

Bran, 1 pound.
Paris green, 1 ounce.
Syrup, 3 ounces.
Small orange (including peeling).
Water, 1½ pints.

In preparing this poison, first mix the bran and Paris green. Squeeze the juice of the orange into the water and chop the pulp and peel into fine bits. Then add them to the water. Dissolve the syrup (which can be any kind of syrup) in the water and wet the bran and Paris green with the mixture, stirring so as to dampen the mash thoroughly.

Put small amounts of this mash in shallow pans and place in closets, behind furniture, in basement, and any other places where crickets have been seen. Remember that this mash *is a strong poison*. Keep children and household pets away from rooms where placed.

The Fertilizers We Need

A TIMELY question is raised by an Ohio reader when he asks: "What fertilizers, natural or commercial, are preferable for potatoes?"

The inquirer says he has a nice black soil and a lot of stable and hen manure.

Much depends on how that land has been handled and cropped during the past few years. The rotation practiced by the growers in the large potato-producing sections of the East, and which involves the application of stable manures or fertilizers for a wheat crop followed by clover, then by corn (also manured) and finally potatoes, can hardly be improved upon.

On general principles most authorities object to the use of fresh manures on ground to be planted to potatoes. Mr. Greiner used to use old manure, however. A light dressing of hen manure might also come handy, especially if one is reasonably sure that such manures are not infected with potato scab (from feeding scabby potatoes to stock).

The application of such fertilizers as the so-called "vegetable" or "potato" manures of our fertilizer dealers, and which contain a few per cent of nitrogen, and perhaps 8 each of phosphoric acid and potash, at the rate of 600 to 1,000 pounds an acre, or possibly for rich black soils that of a plain superphosphate (acid phosphate) at the rate of a few hundred pounds an acre, are almost always safe, even if not always giving increase enough to pay big returns.

It would not be advisable to jump in too heavily, especially if fertilizers have to be bought on credit.

Wisdom From the Weed

By Clifford E. Davis

A WOULD-BE wit makes one of his characters define weeds as "plants that want to grow," and flowers as "those that don't want to."

Thus in agriculture the successful farmer is the man that wants to succeed, whatever the drawbacks and obstacles of inclination, climate, and habit; and the ones who fail are those who at heart have not the determination to win.

Though plowed up and cut off, the weed will still struggle on; and though in rags and in debt, under the rainy sky let the farmer note the humble example and brace up.

Getting Important News

In a certain town in Ohio a man is working on a little machine which will do the work of a horse in plowing corn. Anyhow, he thinks it will. This is news. In an Illinois town is a concern making a machine which will do all the work in the field the small machine won't do. Anyhow, it thinks it will. In another place is made a cement post which can be nailed to. All this is news. So is that story about a bargain in building material. It's big news. But you can't get the full story unless you write the people themselves for it, just as soon as you see their advertisement. If you are interested you ought to have the news. The worth-while inventions, discoveries and devices for getting things done most effectively are usually advertised. Examine this issue of FARM AND FIRESIDE and see the large display of things you need.

A FOOD DRINK
Which Brings Daily Enjoyment.

A lady doctor writes:
"Though busy hourly with my own affairs, I will not deny myself the pleasure of taking a few minutes to tell of the enjoyment obtained daily from my morning cup of Postum. It is a food beverage, not a stimulant like coffee.
"I began to use Postum 8 years ago; not because I wanted to, but because coffee, which I dearly loved, made my nights long, weary periods to be dreaded and unfitting me for business during the day.
"On advice of a friend, I first tried Postum, making it carefully as suggested on the package. As I had always used 'cream and no sugar,' I mixed my Postum so. It looked good, was clear and fragrant, and it was a pleasure to see the cream color it as my Kentucky friend always wanted her coffee to look, 'like a new saddle.'
"Then I tasted it critically, for I had tried many 'substitutes' for coffee. I was pleased, yes, satisfied with my Postum in taste and effect, and am yet, being a constant user of it all these years.
"I continually assure my friends and acquaintances that they will like Postum in place of coffee, and receive benefit from its use. I have gained weight, can sleep and am not nervous."
Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.
Postum comes in two forms:
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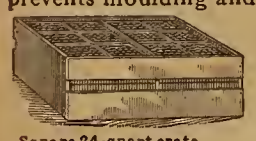

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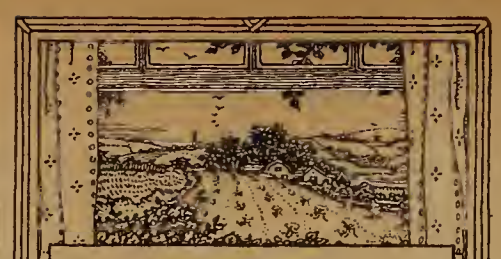


Crops and Soils

Alfalfa Kills Wild Carrot

By Lucia Bosley

FIELDS entirely overgrown with wild carrot can be freed from the pest in four years' time by sowing alfalfa.

Plow, and sow the land with wheat in the fall. In the spring, seed alfalfa with mixed alsike, red clover, and timothy. This will inoculate the soil, and you will get the wheat crop at the same time. The following July cut your hay crop, which will contain a generous sprinkling of alfalfa. In the fall, plow this sod and sow as before to wheat.

Next spring, sow alfalfa just as any other grass seed. You will have a fine catch of alfalfa and hardly a spear of wild carrot will appear. If any should come up, the frequent cutting which the alfalfa requires will entirely kill the noxious weed within two years.

You will have had two wheat crops and two of grass within the four years, so there is no waste of time.

This method has given perfect success on several farms in western Ontario County, New York State.

How to Plow Corn

CORN-PLANTING will soon be the order of the day. One would think that the best system of plowing corn would long since have been agreed upon, but men still differ in their preaching and practice.

The experts have been telling us for many years that we should plow shallow, especially after the corn is a few inches high. Let's hear from the men who plow, and find out what their experience has been.

What is shallow cultivation—an inch, two inches, three inches, or four inches deep?

Why not plow deep all through the season?

Who has ever seen corn hurt by deep plowing?

Another thing is well worth thinking of now: the time to cease plowing. Shall we "lay by" the corn after cultivating three times, or four times, or shall we plow oftener? Shall we stop when the corn gets too high for the ordinary two-horse cultivator? Or shall we keep on with some other tool working between the rows until after it is in tassel? And with what sort of tool shall we do this work, if we do it at all?

Let's hear from the good corn growers, old and young. What does the answer to these questions mean in bushels, according to your experience?

How Things Grow

ALL living things are made from living cells. These cells correspond in a way to the bricks of a building. Most of them are shaped like bricks, and with a strong microscope you can see that they fit together in an orderly way.

Plants and animals grow as these cells increase in number, which they do rapidly until maturity. Some cells in the trunk of a tree have thick, strong walls; those in the leaf are thin and weak.

Good Alfalfa Seed

WE ARE all interested in the extension of the business of producing alfalfa seed. Dry conditions are more favorable to seed production than humid, and we shall have to look to the semi-arid, irrigated, and subhumid regions for our supply.

The farmers of the western parts of the Dakotas and Montana may well turn their attention to the growing of this seed. Their severe winters practically insure hardiness in the varieties, and a well-informed northern farmer, in any of the more Eastern States, will always take their product if he can get it, as against the southern-grown seed.

As a cash crop the dry farmer should find the growing of alfalfa seed an attractive proposition. Utah farmers are successfully growing it on dry land. At the Nephi Station, success was achieved with an average rainfall of 13.6 inches.

Here and there, at experiment stations and on farms, we find successful dry farming with alfalfa by the row method, with frequent cultivation. The rows are 18 inches, 2 feet, and 30 inches apart.

"The drought of 1910," says P. V. Gardon, "had noticeably less effect on these plats than on the other alfalfa plats."

Cultivation conserves moisture, but whether it will pay to cultivate alfalfa in rows depends on conditions. We must each work that matter out for ourselves.

But that the growing of the seed as a cash crop by the dry farmers may be successfully done is no longer open to question—if the farming isn't too dry.

A Dreadnaught Granary

By Ida E. Bloye

WHEN we built our new barn our men-folk wanted a granary which would be rat- and mouse-proof and yet not be very expensive. The plan of the barn prevented the granary from being on the basement floor, so a cement floor was impractical.

So they made a floor of hardwood planks and covered it with matched Georgia pine. The ceiling was also covered with the matched pine. Then they lined the side walls on the inside of the granary with galvanized iron and some tin. This was secured at small expense in the form of an old galvanized roof off a porch. It had been thrown in a rubbish heap and the owners were glad to have us carry it away.

The men did their own carpenter work, consequently the only expense was for the matched Georgia pine and for the nails. The hardwood planks were sawed out of trees cut down in our own woods. A close-fitting door completes this rat-proof and highly satisfactory granary.

A Bad Potato Outlook

POWDERY scab in potatoes has found a foothold in Maine and New York, and is spreading rapidly.

People planting seed which has been shipped from infected districts are warned that there is a risk in planting it, whether it had a federal certificate or not. A bad mix-up.

Federal authorities are convinced that as to shipments from districts which are infected it is impossible to give a certificate which can be relied upon, and they seem to have lost faith in their own certificates already issued.

Certificates will still be given for seed grown outside infected districts.

It looks as if the disease is likely to spread all over the country. Much seed will be planted with the idea that the federal certificate has meant something—which it apparently has not. New disease centers are almost sure to appear all over the North.

It is thought that the disease will not persist in the South except in the mountainous and colder regions, owing to the heat of the climate. It seems to be a cool-climate disease, but nobody can tell what it will do. A scaly outlook.

Corn That Yields Best

AT THE Nebraska State Farm home-grown seed corn of the best varieties yielded a fourth more than prize-winning varieties brought from another State. The results in Ohio show that merely moving corn from one county to another causes a falling off in productiveness.

Corn needs to become accustomed to the soil and climate before it will do its best. Those who buy fine strains of corn from other localities should not expect the best results the first year.

They should go slowly, plant the most of their acreage with the good home varieties, and use the far-brought strains only after they have shown themselves to be at home in the neighborhood.

How to Be Peaceful

By Clifford E. Davis

THE time to get out of a hole is before you fall in. To avoid lawsuits there are several sure rules:

Talk about no one.

Make friends with people who hate you.

Give no one cause to hate you.

Do not injure trespassing stock.

If the line fence needs mending, get together; and get it done at any cost, and don't quarrel over a foot or two of land.

Help any living thing in need, especially a sick or poor neighbor.

Don't sign any papers unless you are sure of their contents.

Don't brag about your bank account.

Don't go on any person's note, even to save his home; for, while your sympathy may be all right, doing so may send your own wife to the poorhouse.

Don't make threats, harbor rough cases, or go in debt.

Bread Across the Waters

EXPORTS of breadstuffs in January of this year were worth fifty-five million dollars as against eleven million dollars for last year. Wheat exports alone amounted to twenty-four million bushels, valued at about $1.40 a bushel.

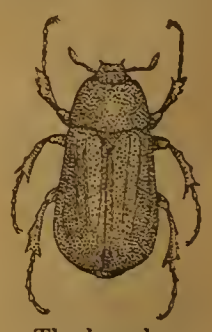
The greatest increase of all was in canned beef, which jumped to nearly 4,000 tons, twenty times the figures for last year. Gasoline exports were doubled.

The June-Bug Pest

By Anna B. Comstock

"And the beetle booms adown the glooms,
And bumps along the dusk."

THERE is no mistaking the beetle meant by James Whitcomb Riley when he wrote those lines. And we would not complain so much if it were content with that, but it comes booming into our open windows in early summer and goes bang into the light, after making various threatening flights at our heads. I am sure if we all sought the light with as much enthusiasm as does this beetle there would be fewer of us living in the darkness.



The bug that lays the eggs

In color this beetle is chestnut-brown, and its coat is covered with little depressions as if made by the point of a needle.

The larva of this beetle, a big white grub with a brown head, eats at the roots of the grass of our lawns. But instead of being flat on the lower side like a caterpillar, it is curved and its legs are on the inside of the curve. Down in the earth it lies on its back, and pushes its way from root to root, on which it feeds.

Although we have spoken of the June bug as one insect, there are at least eight species under this name. During the grub stage all are serious pests in meadows and cultivated fields.

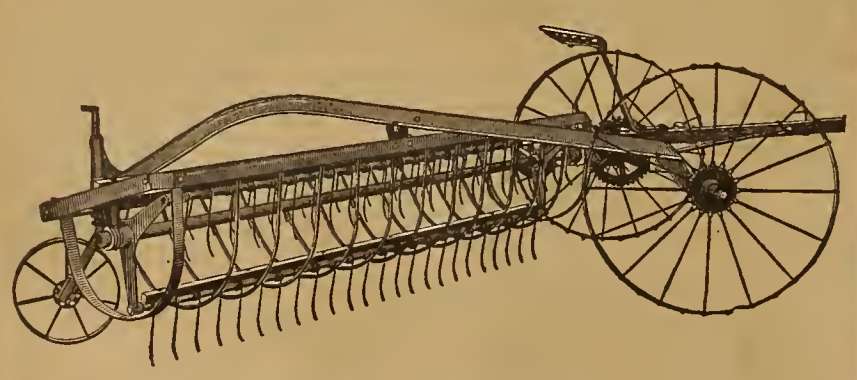
Large patches of meadows often show dead sod that can be rolled up like a carpet, because the grubs have cut away all of the grass roots below the surface. Strawberry beds are also destroyed by them, and it seems nearly impossible to get rid of these pests in the ground.

The grub that eats the grass roots

Hogs turned into meadows infested with the grubs root them out and eat them. And that much abused animal, the skunk, is worth far more than his hide because of the white grubs he takes out of the meadows. The crow also destroys great numbers of grubs. If a locality is badly infested with these beetles, a good way is to attract them to a light and kill them before they lay their eggs.

E

International Harvester Haying Machines



YOUR haying tools must be strong and steady in frame; they must work easily and smoothly; they must get all the hay and put it into the best shape possible. That is why you must consider **International Harvester** hay machines, for **I H C** hay machines have never been beaten for good work in the field or for durability, at any time or place.

I H C local dealers sell these machines. It is to their interest to see that your hay is put into the barn, stack or bale, in the best condition, regardless of the weather or accident. When they sell you an **International Harvester** tedder, side delivery rake, self or hand dump rake, stacker, sweep rake, loader, combined sweep rake and stacker, or hay press, they sell you a machine that you can depend upon; that will give you perfectly satisfactory service.

Drop us a line, and we will direct you to the nearest dealer handling our machines, and will also send you interesting catalogues on any one of these machines you may be interested in.

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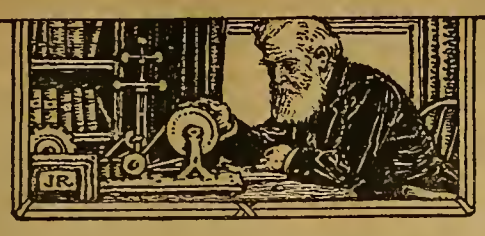


So Padlock Won't Rust

TAKE a piece of leather 5 inches long and 4 inches wide and tack it one inch from the top of the lock. This forms a flap which thoroughly protects the lock from rain and snow. Consequently the lock does not rust, nor is the keyhole filled with ice or dirt.

BOLIVAR BYERS.

Adjustable Cow Yoke

HERE is a cow yoke that will fit either a cow or a calf, as it is adjustable. I made mine from discarded buggy tires, and after trying several of these yokes have found them the most convenient of any I have used.

This kind of yoke is very light and will prevent a cow or calf from creeping through fences. The sketch shows the construction.

To make the cow yoke fit a calf, remove the bolts, slide the parts along so the opening is smaller, and replace the bolts in the proper holes. Have the tops and bottoms of the yokes bent forward to prevent the cows bumping their knees on them.

Sometimes the yoke may be apparently tight, but if a cow catches it on some brush she may turn it the other side up. That is the reason for having the top as well as the bottom bent forward so the ends are interchangeable.

F. E. HOWE.

Let Ax Keep Temper

WHEN an ax handle gets broken and the stub cannot be removed in any other way, the ax is usually put into a fire till the wood is burned out. Very often the ax is ruined because it loses its temper.

To prevent this, drive the ax into the ground up to the broken handle. Then build the fire over it. The wood will burn out and the edge of the ax will not lose its temper.

G. SIEBERT.

This Jack Defies Weight

TO MAKE a powerful but inexpensive wagon jack, take a strong piece of scantling 4 feet long and slope it at one end for a handle. Use another piece just long enough to reach from the ground to the axle when raised. Cut it in two 6 inches from one end.

Fasten the two pieces together by a strong hinge, then nail the shorter end securely to the first piece. The jack is ready for use. Put it under a loaded wagon and lift it with one hand.

WM. L. SCHICK.

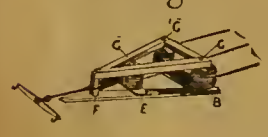
Tar-Pepper Rat Remedy

FOR the last ten years I have used the cheapest and best way for getting rid of rats. Put a few spoonfuls of coal tar on short boards and place them in the runways of the rats. Sprinkle cayenne pepper on the coal tar and also put plenty of fine air-slaked lime around the holes and at other places where the rats live and pass in and out.

A rat that gets the sticky tar and pepper on its feet will feel them burn, and if he also steps into the lime that will stick too, and he will leave the place, taking all the rats with him. I have never known them to come back and have not been bothered with the rats dying on the premises.

D. F. PARK.

Strings Three Wires



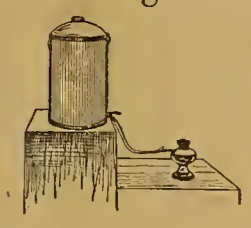
BUILDING fences in the ordinary way is too hard on the arms and back. Here is a fence-building sled I have used for years and would not do without. Make the bottom from the crotch of a tree or two timbers 4 feet long and 6 inches square. Spike on a crosspiece (B) at the wide end of the crotch and another (E) halfway up. These are 2x6's. At F set a post which is 4 inches longer than a spool of wire is high. In the top of the post bore an inch hole 4 inches deep.

Make the top triangle of 4x4's and put a short crosspiece just above crosspiece E of the lower triangle. Bore a hole through it and also through the back corners of the upper triangle and part way through the back corners of the lower triangle.

Now place spools of wire at G G G and on top of them place the triangle. Drop bolts of the right length down through the crosspieces and spools. Also insert a 6-inch bolt at F to hold the point in place. With a horse draw the sled to the first fence post and staple the three ends of the wires to it. Now start up and the wire will unroll as the sled travels along.

V. L. DALLY.

Filling Without Spilling



FILLING lamps from the ordinary can is often attended by the spilling of oil, either through crooked pouring or overfilling. The oil can with a faucet is only moderately successful because it does not accommodate itself to the height of different lamps, and the lamp must sometimes be held in such a way that you can't tell when it is full.

I have rigged up my can as shown in the sketch, and find it very convenient. To the faucet on the can I attach a rubber tube, with a clamp near the end. This tube accommodates itself to lamps of different heights. I put the end of the tube into the lamp, open the clamp, and can readily see when it is time to shut off the oil.

MRS. E. L. RHINEHART.

Lantern in Cellar

JUST think it out for yourself and realize how much more convenient and safe it is to use a lantern in the cellar instead of a lamp. Carry it on your arm with both hands full. Hang it on a nail overhead to work by, first making sure that plenty of nails have been driven there.

Lower it into a box or barrel of fruit or vegetables. Let a child hold it—a child whom you would not trust to hold a lamp. It is "Safety First" without sacrificing time or convenience. This advice is mostly for women.

E. E. WHITNEY.

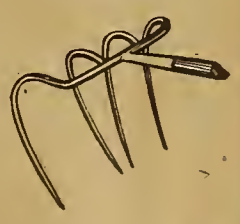
Drill From a Nail

WHILE drilling a hole in a piece of hard wood with a ⅜-inch drill, I broke it. Having no more drills of the same size, I was about to give up my task until I could go to town for a new one. Suddenly the idea occurred to me that I might make a drill out of a spike. This I did in five minutes' time.

I flattened the small end of the spike on a wagon tire to the right size, and then sharpened it on a grindstone, putting bevel edges on it to resemble an ordinary drill. After this I squared the head with a hammer so that it would go into a brace, and it worked so well that I afterward made several of various sizes.

L. E. DUBOIS.

Cultivator From Pitchfork



HERE is the way I made a rake-tooth cultivator for hand-cultivating double rows of vegetables 6 inches apart.

Take an old 4-pronged pitchfork to a blacksmith and have him heat and bend the tines about 3 inches from socket downward like a potato hook, and spread the tines as follows:

Have a 2-inch space between the two center tines and a 4-inch space between the two outside tines, and the next nearest ones. Thus at one operation you can cultivate the space between the double rows and on the outside.

J. PAUL HATCH.

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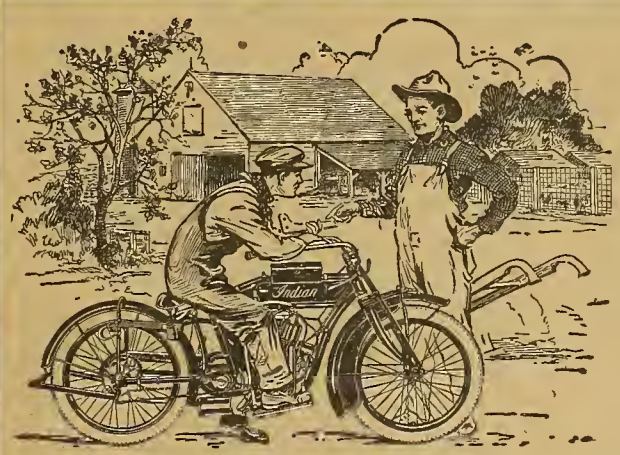

A Broken Implement Part—and Town Twelve Miles Away!

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"Painting with ready-made paint, eh?"

"You bet I am!"

"Well, my grandfather used to tell me, 'If you want a thing done right, do it yourself!'"

"Do you cut your own hair? He did, or got his wife to help him. She used to make soap for the family, too, but our wives today can buy better soap than they can make. I can buy better paint than I can mix."

"When it comes to mixing I'd back myself against the best painter that ever held a paddle."

"But not against accurate, powerful machinery. How about your flour? Do you grind your own grain or let a mill do it for you? Paint materials must be ground as only machinery can do it, and mixed with a thoroughness that no human hand can equal."

"Well, it's too blamed expensive, anyway."

"You let Jim Simpson figure on your next job with this paint. It spreads farther, and protects better because it sinks into the wood and fights off decay and repair bills. It looks better and lasts longer. And if you figure your own time worth anything, it amounts to the same thing anyway."

"That's a Sherwin-Williams Paint, isn't it?" "Yes—S W P."

Jim Simpson is the Sherwin-Williams dealer in their town. He supplies every paint needed on the farm. There's a Jim Simpson near you. If you don't know his name, write us. We gladly send free our painting book for farmers.

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So the Flies Won't Roam

By HELEN W. BANKS

By confining the flies, this manure shed adds to the profit and comfort of the live stock and also to the health of the people

HOW can I keep the manure heap from being a breeding place for flies?

This question is worth a lot of study. There have been decoctions manufactured for spraying manure. These are rather expensive, not always helpful to the fertilizing value of the manure, nor are they a perfect remedy against fly-breeding.

The covered pit, as another attempt to control flies, also has its drawbacks. In spite of its high cost it cannot be made wholly adequate, for the flies get in and breed under the very shelter of the cover itself. Against the pit, too, lies the argument of convenience. It may be easy to put the manure into the pit, but getting it out is quite a different matter.

The photograph shows a third method of fly-proofing the manure heap.

The manure heap in this case lay against the barn. The part of the barn showing the windows is the horse stable and the manure is shoveled out of it through a small door even with the floor. The cow stable is below.

This is how the owner solved the problem. He measured off a space large enough to hold a year's manure from the stables. He put down rough 2x4s for sills and rough 4x4s for uprights. From these up to the side of the barn he built a shingled roof, with the opening from the horse stable coming under the roof. The angles formed at each end of the shed by the slope of the roof he filled in with barn sheathing. Then he nailed boards from post to post, halfway up the height.

Near the cow-barn door he made a door casing and set in it a screen door.

Then two pieces of cotton mosquito netting finished the job. There could have been an opening cut from the cow barn into the screened enclosure, but the man in charge preferred cleaning the cow stalls through the large door. The screen door is opened therefore to admit the manure and at once closed and bolted. So also is the trap door under the roof.

This screened shed is fly-proof.

In December the netting is taken down, the side boards removed, and in the spring the manure stands open to the wagons ready to receive it. Then the board and netting are replaced and the flyless manure heap is ready for another year's work.

The cost of the shed was:

Lumber	$31.90
Labor	12.00
Wire door	1.00
Two pieces cotton netting	1.60
Total	$46.50

The same plan can be used for keeping flies away from dairy utensils, outdoor canning operations, and similar out-of-door work that attracts flies.

When the Horse Itches

By DR. A. S. ALEXANDER

AN ILLINOIS subscriber has a mare that commences to gnaw and rub the skin on her side and hip as soon as warm weather begins. At times the skin has become raw and sore. Treatments with several ointments and medicines have failed.

From the description this mare suffers from summer itch, a form of eczema. First have her clipped. Wash affected parts with a one-hundredth solution of coal-tar dip, and rub in sulphur while the skin is wet. Repeat the operation as often as found necessary. If any sore is obstinate, paint it with tincture of iodine twice a week, and twice daily apply benzoated oxide of zinc ointment. Let her occupy a box stall when in the stable, but make her work or take abundant exercise every day. Do not feed grass or corn. Grass tends to bring on this itch, and corn is best for feeding in cold weather.

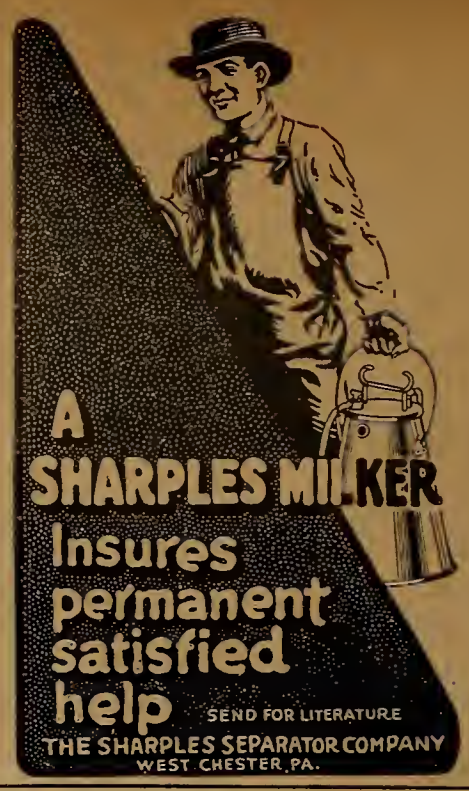
In feed, night and morning until the itchiness subsides, mix half an ounce of granular hyposulphite of soda, and if that does not suffice give her half an ounce of Fowler's solution of arsenic night and morning until one quart has been used. Then gradually discontinue the medicine, taking a week or more to the work.

Darken the stable and screen it against flies, for flies help to produce and continue the trouble. If flies bother the sores, dust them with iodoform twice daily, in addition to the other treatment.

The Early Training

TWO sections of harrow for a team of this size looks like puttering work. But it is more than work. The animals shown are young Belgian mares and this is part of their early training.

Harrowing is quiet, steady work, and in this case is reasonably light work. The young animals get to know the feeling of harness and learn to obey their driver. Quiet field work of this sort should come before use on the highways where passing teams, signboards, and strange sights are likely to make fillies nervous.



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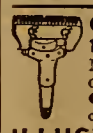

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Prescribed Change of Food Instead of Drugs.

It takes considerable courage for a doctor to deliberately prescribe only food for a despairing patient, instead of resorting to the usual list of medicines.

Some truly scientific physicians recognize and treat conditions as they are and should be treated. Here's an instance:

"Four years ago I was taken with severe gastritis and nothing would stay on my stomach, so that I was on the verge of starvation.

"I heard of a doctor who had a summer cottage near me—a specialist from N. Y.—and, as a last hope, sent for him.

"After he examined me carefully he advised me to try a small quantity of Grape-Nuts at first, then as my stomach became stronger to eat more.

"I kept at it and gradually began to have color in my face, memory became clear, where before everything seemed a blank. My limbs got stronger and I could walk. So I steadily recovered.

"Now after a year on Grape-Nuts I weigh 153 lbs. My people were surprised at the way I grew fleshy and strong on this food."

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

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for stock, home, fire protection, etc.—fully discussed in our book, "Water Supply for the Country Home"

It describes our 300 guaranteed, durable pumps—hand and power — $3 to $300 — which our Service Dept. will help you select — free. Send for your free copy today.

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$24 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in four larger sizes up to 5 1-2 shown here.

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No. 5½

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A Bog Spavin, Puff or Thoroughpin, but

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will clean them off permanently, and you work the horse same time. Does not blister or remove the hair. $2.00 per bottle, delivered. Will tell you more if you write. Book 4 K free.

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Live Stock—Dairy

The Expected Foal

IN THE last months of her pregnancy the feed for the mare must be for two—herself and the unborn foal.

She may work moderately, but she must be fed for herself and another animal. She certainly needs exercise.

She cannot use enough hay and straw to keep her in good condition. Her abdomen is too full.

Clover or alfalfa hay is better than timothy because it is less bulky, but she needs such grain as oats, bran, and oil meal to furnish the bone- and flesh-building materials which she must have. Bran keeps her bowels in condition. Six pounds of oats, three of bran, and one of oil meal is recommended by Hislop of the Washington State Station, and is a good mixture.

Be on hand day or night when the foal arrives. You may not be needed, but if you are you are needed badly.

Little Pig Losses

HAVE you lost your little pigs? Most such losses come from the stuffing and fattening of the mother sow, especially where corn is the ration.

It may be too late to change from the rut this year, but next year's crop of pigs may be assured by making arrangements now for their dams to be in keen appetite by not being stuffed—in thrifty condition but not fat, through a varied ration with plenty of bone and muscle in it, and plenty of exercise taken in passing from their sleeping quarters to a feeding place some little distance away.

The Nebraska Experiment Station has had fine success with a feed composed of seven parts of corn or ground barley and one of oil meal. Tankage will do in place of the oil meal, but it goes farther and should be used in the ration of one to nine of corn or ground barley. Alfalfa hay is always good for brood sows.

Use Kind Words

By C. E. Davis

YOU never can train a colt, a calf, or any animal, wild or tame, unless you gain its entire confidence and affection. To do this you must never deceive it, not even for fun, and always protect it and show that you love it.

"The way to a man's heart is through his stomach," and the road to the affection of an animal is by way of its taste.

An apple, a bit of tender grass, or some tasty bit will soon make friends with it, and kind words and petting will make it a loving and obedient friend.

Why the Cows Went Dry

A Story in Three Parts

Part I

Too Much Bow-wow

WHEN we were handled quietly
My yield was mighty high,
But since they've started dogging us
I've struck by going dry.

Part II will appear in next issue

DE LAVAL SEPARATORS are by far the most economical

REAL economy is never short-sighted. It never confuses PRICE with VALUE.

PRICE is what you pay for an article.

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You get by far the greatest actual value for your money when you buy a De Laval—BECAUSE a De Laval will give you much better and longer SERVICE than any other cream separator.

From the standpoint of its greater durability alone the De Laval is the most economical cream separator to buy, and when you also take into consideration its cleaner skimming, easier running, greater capacity and less cost for repairs, the price of the "cheapest" machine on the market is most exorbitant compared with that of the De Laval.

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A De Laval catalog to be had for the asking tells more fully why the De Laval is the most economical cream separator, or the nearest local De Laval agent will be glad to explain this and many other points of De Laval superiority. If you don't know the nearest local agent, simply write the nearest De Laval main office as below.

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It gets a length and quality of wool that will bring the highest price. The Stewart runs so easily a child can turn the handle while you shear. Extra profits soon pay for it. It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of latest improved Stewart pattern. Price complete, including 4 combs and 4 cutters of the celebrated Stewart pattern, only $11.50.

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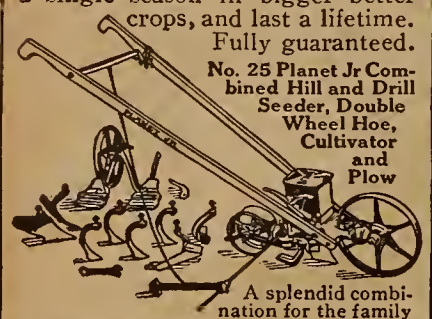

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The Farmers' Lobby

The Story of Why Gasoline is Going to Be Cheaper

WHEN you start the gasoline engine to pump water for the cows or turn the cream separator, or—I hope—fill the tank which furnishes running water in the house, it seems a very innocent act. Doesn't it, now?

But really, you are helping to bring on a crisis in business. At least, before the month of March, 1915, that's exactly what you were doing.

But in March, 1915, Franklin K. Lane, Secretary of the Interior, gave out an interview which relieves you of all blame. You may run the gasoline engine until the cows come home, and even after, with no feeling that you are bringing on a world's famine in engine fuel.

And this story of official life in Washington is worth telling in this Lobby, devoted as it is to the task of keeping the farmers of the nation in intelligent touch with what goes on in the nation's capital. It is probably the biggest story ever given out for engine users, and it is the sort of thing one likes to tell about—the things some of our Government employees are doing.

Like all big stories, there is a man in the center of it, and standing by the man's side is a woman.

The Boy Did a Man's Work

The man is Walter F. Rittman, an Ohio boy thirty-two years old. He is Doctor Rittman, but many Sandusky people will remember him as Walter Rittman, and wonder how he can be so eminent all at once. It is only a few years since some of them saw him forced out of school by poverty before graduation. Then they heard that he had found work in steel works and carbon plants about Cleveland.

It was only ten years ago that he finally found his way to college. Having worked for a living, he could work for an education. He entered Swarthmore College.

And here the woman standing by his side comes in. Then she was Anna Campbell, a fellow student of Walter Rittman in chemistry. They worked together in chemistry then, and they are working together in chemistry and in all the other affairs of life now. They have been married a year and a half.

The marriage came after Doctor Rittman had become established in the ugly old building on E Street in Washington as an assistant of Doctor Holmes, the head of the United States Bureau of Mines, one of the bureaus so well presided over by Secretary Lane.

Doctor Rittman draws a salary of $3,000 a year. That seems large to a man following a plow for $25 a month, but the farm hand may rest assured that if he lived in Washington on $3,000 a year he wouldn't be able to support more than one wife on it, even though he were a Mohammedan and allowed by law to have several. And yet the $3,000 enabled these young people to get married.

What $3,000 Did

It also enabled Doctor Rittman to do about twice as much work as he could have done alone. It gave the Government two chemists instead of one for $3,000 a year. And that enabled Secretary Lane to give out the statement the other day which will enable you to run the gasoline engine without fear of bringing on a gasoline famine.

The Government set Doctor Rittman at work, on a salary of $3,000 a year, to solve a problem for the answer to which several large corporations would have been willing to pay $30,000 a year to any chemist who could have convinced them that he could find the answer. This is the problem of getting more gasoline out of crude oil.

When you start your gasoline engine you are using a part of the crude oil which was a very bad nuisance forty years ago—the part that explodes. When coal oil was first sold as a lamp oil it was under the name of "illuminating fluid." The people who burned it—and were burned out and up by it sometimes—called it "fluid," and our older readers will remember the "fluid lamps" of the fifties and sixties, and the death and destruction they spread.

Oil Was Dangerous

"Fluid" simply would not do, and the oil people worked out the plan of taking out the light, vaporous, explosive part of the crude oil, and offering for sale the heavier, stabler part. "Illuminating fluid" had a bad reputation, and the new lamp oil had to have a new name. The name selected was "kerosene."

It was safer than the "fluid," but it still was not always safe. It was possible to make it safe, but because there was no use for the explosive stuff taken out of it, except for such limited uses as cleaning clothes, the oil people naturally took out as little as possible. They left so much "flash" in the oil, which burned out so many people that laws were passed for the inspection of oil.

This very day there are in most States oil inspectors, paid by the people, whose duties are to see that no oil is sold for lamps and stoves which will vaporize and explode in using. We might just as well appoint and pay men to inspect flint-lock guns and wooden plows to-day. There is no explosive kerosene. If there had been, Dr. Walter F. Rittman, on a salary of $3,000 a year, would not have done for the whole people a work which the oil and gas engine and giant powder companies have been trying to get done, regardless of expense, and couldn't.

The gasoline is now all taken out of the oil. Kerosene is a drug on the market. Once it was a problem to get rid of the gasoline, and so much of it was left in sometimes that we really needed oil inspectors. Now the problem is to get rid of the kerosene, and the oil refineries have inspectors of their own who would lose their jobs if they allowed any of the precious explosive gasoline to remain in the oil.

Oil inspectors are merely proofs that office holders are hard to get rid of. Oil inspectors should be abolished.

He Had a Purpose

Young Doctor Rittman, working for you, my readers, believed that if he had a chance and a good place to work he could find a way to get more gasoline out of crude oil. He convinced his superiors that it was worth trying, and Rittman and his wife went to New York City, where Columbia University gave him the use of a laboratory which the ugly building on E Street did not possess.

Crude oil is not one thing. It is safer to say that it is everything. Anyhow it is a whole lot of things. Gasoline is made up of the smaller, lighter molecules in it. Kerosene is the middle-sized molecules, and the big, heavy ones are used for lubricating oils and many other things. In all crude oil there are the biggest, heaviest, solid molecules which are left to be disposed of in the form of paraffin, asphalt, [CONTINUED ON PAGE 23]

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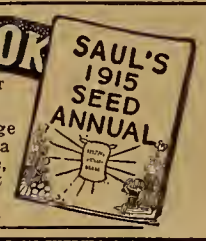

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72-page Machinery Catalog, containing complete description of the different Farquhar Threshers, mailed free to grain growers. Write now for your copy of this valuable book.

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stains and varnishes with one stroke of the brush. A marvellous finish for floors, furniture, and all interior woodwork.

You yourself can fix up that little job with Campbell's Varnish Stain.

13 COLORS natural wood, light oak, dark oak, walnut, cherry, mahogany, green, rosewood, white enamel, flat black, gloss black, piazza green, and piazza red. Also ground color and surfacer for graining.

ALL SIZES—¼ Pints to 1 Gallon.

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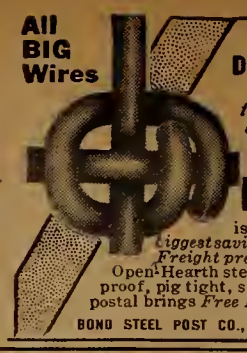

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850,000 GRAPEVINES

69 varieties. Also Small Fruits, Trees, etc. Best rooted stock. Genuine, cheap. 2 sample vines—10c. Descriptive price list free. Lewis Roesch, Box K, Fredonia, N. Y.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore.—Adv.

Official Denial

NO WAR TAX on HOMESTEAD LAND in CANADA

The report that a war tax is to be placed on Homestead lands in Western Canada having been given considerable circulation in the States, this is to advise all enquirers that no such tax has been placed, and there is no intention to place a war tax of any nature on such lands.

(Signed) W. D. SCOTT,
Ottawa, Can., Mar. 15, 1915 Supt. of Immigration

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E

Flowers for All Summer

I have a flower bed about 6x37 feet in front of my house, with a hedge about 16 inches high. I wish to plant annual flowers except about one row of geraniums. Please tell me of the best early blooming plants and how to start them.

G. A. WILSON, Pennsylvania.

FOR bed borders vinca—standing periwinkle—with glossy foliage and white flowers is much admired. (The rose-colored variety is not worth while.) Also golden feather feverfew is unsurpassed for the same purpose and contrasts like sunshine with any red, bronze or autumn-leaf colored coleus, just back or over it. Golden feather is of low growth. Another is coleus, which may be had of any height.

Cannas are as effective as geraniums, and are always in bloom. Tropical foliage and brilliant flowers, dark foliage and snow-white flowers, characterize some of the latest improved cannas, such as Mont Blanc and Nusafolia. Unless the foliage of cannas is watched with a hawk's eye for the leaf roller, there is little use trying this flower. The leaf roller turns down the edge of the leaf when the insect is no larger than a pinhead, and eats and grows until the "worm" is the size of a man's thumb. Ragged and destroyed leaves, all but the mid-rib, will result. Then the excretions deface the leaves. Prevention of insect damage is easy, but it must be constant. Cannas are spectacular in beauty throughout the season, until frosted.

In order to have beds of annual flowers appear well, from early summer until late autumn, reject all annuals that bloom only for several weeks. Select the kinds that bloom continuously. Poppies, for instance, are the most brilliant and beautiful of all annual flowers, but they bloom and go to seed, die down, and are done for by midsummer.

The Flowers That Bloom

The following enumeration of kinds that bloom from spring to the close of the season, fresh and bright all summer, will produce fine effects:

Sweet alyssum for edging beds is without a rival. It grows low, about six inches high. The whitish-green, grassy foliage makes a soft, fluffy cushion for the pure-white, lace-like flowers. Sow the seeds, and transplant early or late. Give nice fertile soil. No annual is more tractable.

Golden feather feverfew is a more showy annual for edging than sweet alyssum on account of its gay yellow foliage. For its best effect pinch off every bloom stalk; it loses its good looks by shooting up bloom stalks. The flowers are insignificant.

Nasturtiums, both dwarf and large-growing kinds, are splendid, all-season bloomers in rich colors. No annuals have the oriental colors like nasturtiums.

Petunias, double as roses, and single-flowered, fringed, fluted, and convoluted, are magnificent from early to late, but the seeds and plants are quite expensive.

Shasta daisies, with silvery white ray petals and big hearts of deep yellow, bloom incessantly. Start the plants from seed early.

Cosmos, in white, pink, rose, lavender and yellow, blooms profusely, but not before midsummer. After July the plants fairly shout for glory until frost. They are highly effective.

Antirrhinums, or snapdragons, are about the only annuals of velvety texture. They are very rich-looking, tall-growing, and showy.

Always mass annuals; never scatter them about singly. Anywhere from twelve to forty or more make a mass effect with good results.

Nasturtiums must not be grown in rich soil. In poor sandy soil they bloom brilliantly and profusely, but in rich soil make luxuriant foliage, but few flowers.

Salvia splendens, in scarlet, makes a very fine bed of itself. Bordered with white Shasta daisies with a white- or yellow-flowered canna in the center the effect is brilliant. GEORGIA T. DRENNAN.

POTATOES have been successfully used in Germany in large quantities in fattening hogs. The lack of protein was made up by meat meal and fish meal, and a small amount of barley meal. The potato-fed hogs were quite as good as barley-fed or corn-fed hogs.

EW

An Insect Immigrant

By Anna B. Comstock

ON a pleasant morning in spring we may see a gay white butterfly dancing over the lawn. We will admire the flash of its white wings in the sunshine, but if we are wise gardeners and know the mischief that follows in the wake of its glimmering wings we are likely to say, "You rascal! Get out of my garden!" But in neither of these cases are we likely to think of this butterfly as an immigrant.

We had in America two white butterflies of our own—very well-behaved butterflies, which laid their eggs and raised their caterpillars on wild plants belonging to the mustard family. Occasionally they found the cabbage and turnip leaves

The imported cabbage butterfly. A—Egg of the butterfly, greatly enlarged. It is brilliant yellow and is a beautiful object when viewed through a microscope. B—Caterpillar, half-grown, feeding on leaf of wild radish. C—Chrysalis, suspended from a stem. D—Female cabbage butterfly.

of our gardens quite acceptable, but they ate only the outside leaves and never did much serious damage.

In 1860 there came over from Europe, as a stowaway, a female of the cabbage butterfly of Europe. She landed at Quebec, and with characteristic enterprise deposited her eggs on the plants of the first cabbage patch she discovered. She laid many eggs, and her daughters were vigorous. By 1871 they had reached New England.

In 1868 another stowaway arrived in New York, and proceeded to make herself likewise at home. The first year afterward, her family became suburban, and by 1870 her descendants covered all of New Jersey and parts of New York and Connecticut. The next year the two families of invaders joined forces, then all went merrily; by 1878 these butterflies had captured the East and South and entered the Mississippi Valley; and by 1883 the cabbage butterfly of Europe had conquered America from the Atlantic Coast to the Great Plains, and from the Gulf of Mexico to Hudson's Bay. A year or two later it crossed the Rocky Mountains and finished the job.

After thus recording the deeds of the conquerer it is well to see how the conquest was achieved. The mother butterfly lays her eggs singly on the cabbage, and most exquisite objects are these tiny cone-like eggs, ribbed in elaborate pattern. From each of these eggs hatches a green velvety caterpillar whose chief business is to eat holes in the leaves. When fully grown it crawls off to some fence or bush, spins a button of silk in which it hooks its hind legs; then it spins a silken sling, securely fastened, through which it puts its head, and thus supported changes its skin and appears as an angular little object, which is a chrysalis. But even now it retains its canniness, for it is likely to take on the color of its surroundings, so it escapes the eyes of birds. In the summer this nesting stage lasts about twelve days, but for the last brood it lasts all winter, and early in April the butterfly issues so as to be ready for the earliest plants.

The whole secret of the conquest of our country by the cabbage butterfly lies in the number of broods during a season, and upon the unlimited supply of cabbage which it found awaiting in the new land. Only in the far North does the invader have only two broods in a season. It has three broods in New England, and as many broods in the South as can be crowded into the long warm summer.

Thus it is that this innocent-looking butterfly came, saw, and conquered.

Washed Vegetables

By C. E. Davis

A QUICK, sure, and easy way to clean potatoes, beets, and parsnips for market, excepting new potatoes, is to wash in water, using a common scrubbing brush to remove the dirt.

There is nothing which sells so quickly or commands such good prices as clean vegetables, although most of us send them to market with the dirt still caked on them. Such a policy depreciates not only the value of the entire load but of the value of the farmer himself.

Washed potatoes and other vegetables are nicer to handle and show up better in the clean basket than the dirty tuber in the soiled box or bag.

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THE AUTO-OILED AERMOTOR WITH DUPLICATE GEARS RUNNING IN OIL

Every bearing is constantly flooded with oil. The gear case, in which the duplicate gears run, holds two or three times as much oil as is required by the mill for a year of constant running, days, nights and Sundays. From the gear case the oil flows through every bearing in a continual stream. It goes out through the thrust washers in the hub of the wheel and is automatically returned to be used over and over again. No oil is wasted. This mill needs oiling but once a year. **Two quarts of oil in the gear-case of the 8-foot Auto-oiled Aermotor will keep the gears and every bearing flooded with oil for a year or more.**

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If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; if you are tired of waiting for a big wind, let us furnish you an unbreakable, self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. The flooding of all the working parts with oil, the perfect balance of the wheel and vane on the tower, the very small turntable on which the mill pivots and the outside furling device make this difference.

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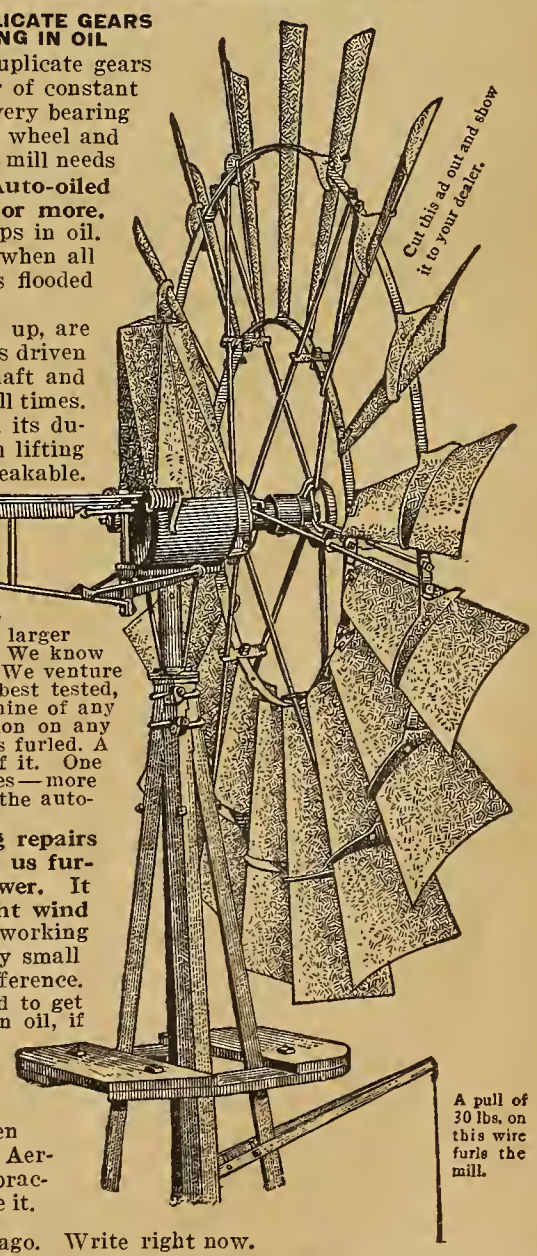


If interested, write **Aermotor Co.,** 1146 So. Campbell Avenue, Chicago. Write right now.

The Brown Mouse

The Romance of a Farm Hand Who Upset a School District

By HERBERT QUICK

Part Twelve

WHAT wonder that our mails are crowded with letters expressive of gratitude, inspiration, and interest, called forth by "The Brown Mouse"! What wonder that teachers are stirred by it to new endeavor, and communities to new ideals!

Of course this is so. A farmer wrote it—a farmer who was born on a farm and still lives on a farm; a farmer, moreover, who for years taught country school in Iowa.

Mr. Quick has arranged his chapters with a thought for the man or woman who might fail to begin at the beginning and yet want to enter the reading later. For the sake of these he has really made "The Brown Mouse" into three stories, and the third story begins now—in this issue. Read it.

Up to now Jim Irwin had struggled against an almost united opposition to his school methods. He has been a farm hand all his life until he consented to break a deadlock on the school board by becoming a candidate for district teacher. Through an accident he was elected, and he at once put into operation all the ideals for a country school of which he used to dream when he worked the soil by day and read science and philosophy by night.

Parents cried out against his farm arithmetic, farm chemistry, farm bulletins, and implements introduced into the school course. They wanted, not utility, but cultural studies. Finally Jim was brought up to be tried for incompetency before the county superintendent. And who was the county superintendent? The girl he liked best in the world, Jennie Woodruff, daughter of his old employer. She was angry and disgusted with him, and yet she was forced to an acquittal because his pupils passed creditably through an examination which was the test of Jim's methods.

But although without honor at home, the work of this prophet of the country school for country children was heard of in other parts of the State. Jennie Woodruff forgot her self-conceit and pricked up her ears. She heard Jim's fame spreading. She heard him invited to Ames to lecture. She went to Ames to hear him speak—

But that is where you are going to begin the story. It is the chapter in front of you.—EDITOR'S NOTE.

XXX

Jim Goes to Ames

THE boat tipped over and Jim Irwin was left struggling in the water. It was in the rapids just above the cataract—and poor Jim could not swim a stroke. Helpless, terrified, gasping, he floated to destruction, and Jennie Woodruff was unable to lift a hand to help him.

To see any human being swept to such an end is dreadful, but for a county superintendent to witness the drowning of one of her best—though sometimes it must be confessed most insubordinate—teachers, under such circumstances, is unspeakable; and when that teacher is a young man who was once that county superintendent's sweetheart, and falls in, clothed in a new made-to-order suit in which he looks almost handsome despite his manifest discomfort in his new cravat and starched collar, the experience is something impossible to endure.

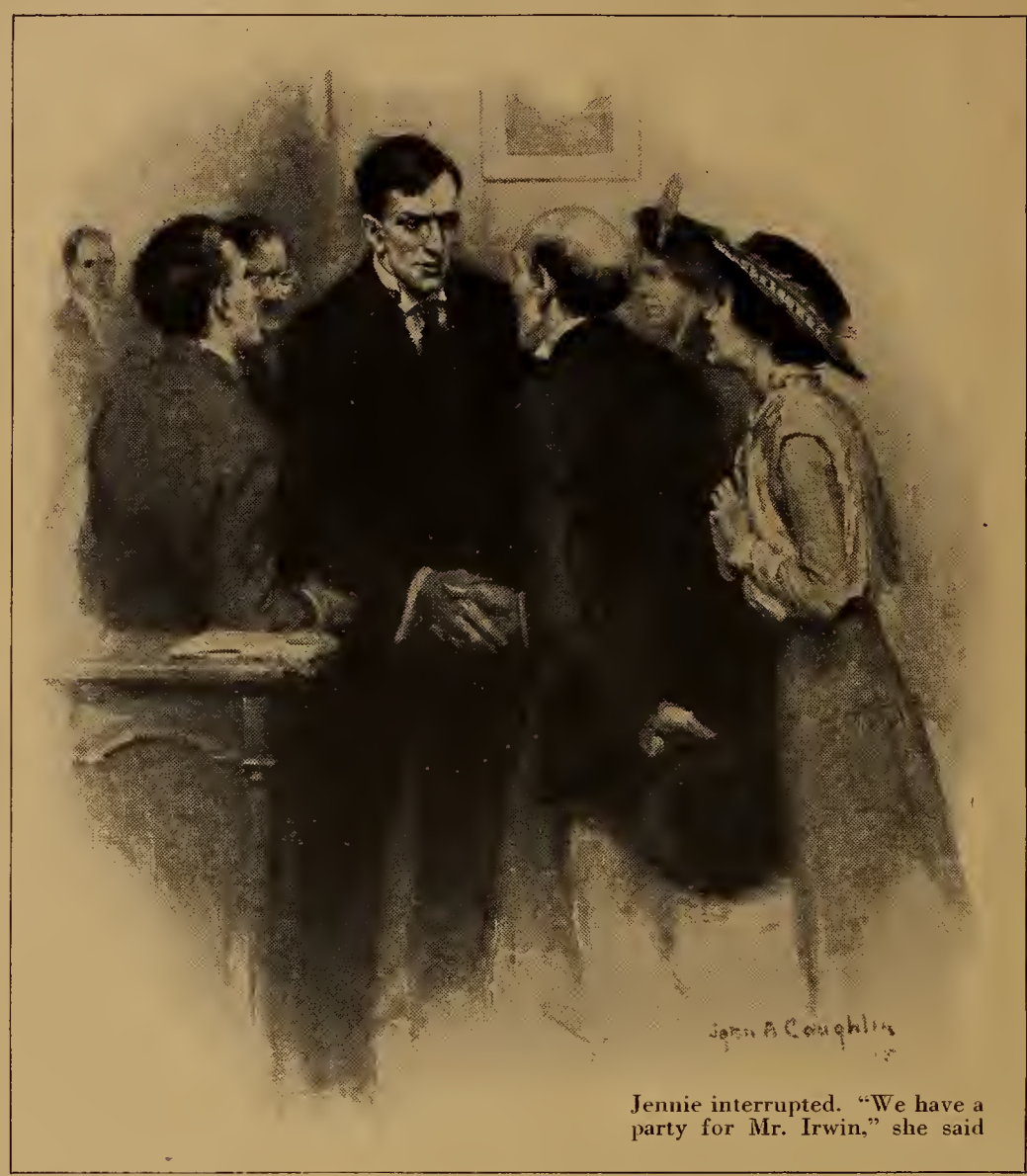
That is why Jennie gripped her seat until she must have scratched the varnish. That is why she felt she must go to him and do something. She could not endure it a moment longer she felt, and there he floated away, his poor pale face dipping below the waves, his sad, long, homely face sadder than ever, his lovely—yes, she must confess it now, his eyes were lovely!—his lovely blue eyes, so honest and true, wide with terror, and she unable to give him so much as a cry of encouragement!

And then Jim began to swim. He cast aside the roll of manuscript which he had held in his hand when the waters began to rise about him, and struck out for the shore with strong strokes, wild and agitated at first, but gradually becoming controlled and co-ordinated, and Jennie drew a long breath as he finally came to shore, breasting the waves like Triton, and master of the element in which he moved.

There was a burst of applause, and people went forward to congratulate the greenhorn who had really made good. Jennie felt like throwing her arms about his neck and weeping out her joy at his escape and his restoration to her. Her eyes told him something of this, for there was a look in them which reminded him of fifteen years ago. Bettina Hansen was proud of him, and Con Bonner shook his hand and said that he agreed with him.

But neither Bettina nor Con had seen him when the boat tipped over and the form of Jim went drifting toward the cataract. But he knew how near he had been to disaster, and knew that Jennie knew. For she had seen him turn pale when he came on the platform to make his address at the farmers' meeting at Ames, had seen him begin the speech he had committed to memory, had observed how unable he was to remember it, had noted his confusion as he tried to find his manuscript, and then his place of beginning in it—and when his confusion had seemingly quite overcome him, had seen him begin talking to his audience just as he had talked to the political meeting that time when he had so deeply offended her, and had observed how he won first their respect, then their attention, then apparently their convictions. It was wonderful; it was inspiring.

To Jennie's agitated mind Jim had barely escaped being drowned in the ocean of his own unreadiness and confusion under trying conditions. And she was right. Jim had never felt more the upstart uneducated farm hand than when he was introduced to that audience by Professor Withers, nor more completely disgraced than when he concluded his remarks. Even the applause was to him a kindly effort on the part of the audience to comfort him in his failure. His only comfort was the look in Jennie's eyes.



Jennie interrupted. "We have a party for Mr. Irwin," she said

"Young man," said an old farmer who wore thick glasses and looked like a Dutch burgomaster, "I want to have a little talk with you."

"This is Mr. Hofmyer of Pottawattamie County," said the dean of the college.

"I'm glad to meet you," said Jim, "and I can talk to you now."

"No," said Jennie. "I know Mr. Hofmyer will excuse you until after dinner. We have a little party for Mr. Irwin, and we shall be late if we don't hurry."

"Where can I see you after supper?" asked Mr. Hofmyer.

Easy it was to satisfy Mr. Hofmyer, and Jim was carried off to a dinner given by County Superintendent Jennie to Jim, the dean, Professor Withers, and one or two others—and a wonderfully select and distinguished company it seemed to Jim. Jennie seized a moment's opportunity to say,

"You did beautifully, Jim! Everybody says so."

"I failed!" said Jim. "You know I failed. I couldn't remember my speech. I can't stay here feasting. I want to get out in the snow."

"You made the best speech of the meeting, and you did it because you forgot your speech," insisted Jennie.

"Does anybody else think so?"

"Why, Jim! You must learn to believe in what you have done. Even Con Bonner says it was the best. He says he didn't think you had it in ye."

This advice from Jennie to "believe in what you have done"—wasn't there something new in Jennie's attitude here? Wasn't his belief in what he was doing precisely the thing which had made him such a nuisance to the county superintendent? However, Jim couldn't stop to answer the question in his own mind.

"What does Professor Withers say?" he asked.

"He's delighted—silly!"

"Silly!" How wonderful it was to be called "silly" in that tone.

"I shouldn't have forgotten the speech if it hadn't been for this darned boiled shirt and collar and wearing a cravat," urged Jim in extenuation.

"You ought to've worn them around the house for a week before coming," said Jennie. "Why didn't you ask my advice?"

"I will next time, Jennie," said Jim. "I didn't suppose I needed a bitting rig, but I guess I did."

Jennie ran away then to ask Nils Hansen and Bettina to join their dinner party. She had a sudden access of friendliness for the Hansens. Nils refused because he was going out to see the college herds fed, but at Jennie's urgent request, reinforced by pats and hugs, Bettina consented. Jennie was very happy, and proved herself a beaming hostess. The dean devoted himself to Bettina, and Jim found out afterwards that this inquiring gentleman was getting at the mental processes of a specimen pupil in one of the new kind of rural schools in which he was only half inclined to believe. He thanked Jim for his speech, said it was "most suggestive and thought-provoking," and they were all glad to have heard it. As the party broke up he slipped into Jim's hand a check for the honorarium.

It was not until then that Jim felt quite sure that he was actually to be paid for his speech, and he felt a good deal like returning the check to the conscience fund of the State of Iowa, if it possessed such a fund. But the breach made in his financial intrenchments by the expenses of the trip and the respectable and well-fitting suit of clothes overcame his feeling of getting something for nothing. If he hadn't given the State anything, he had at least expended something—a good deal in fact—on the State's account.

XXXI

Honor to Jim

MR. HOFMYER was waiting to give Jim the final convincing proof that he had produced an effect with his speech.

"Do you teach the kind of school you lay out in your talk?" he asked.

"I try to," said Jim, "and I believe I do."

"Well," said Mr. Hofmyer, "that's the kind of education I b'lieve in. I kep' school back in Pennsylvany fifty years ago, and I made the scholars measure things, and weigh things, and apply their studies as fur as I could."

"All good teachers have always done that," said Jim. "Froebel, Pestalozzi, Colonel Parker—they all had the idea which is at the bottom of my work: 'learn to do by doing,' and connecting up the school with life."

"M-h-m," grunted Mr. Hofmyer, "I hain't been able to see how Latin connects up with a high-school kid's life—unless he can find a Latin settlement som'eres and git a job clerkin' in a store."

"But it used to relate to life," said Jim, "the life of the people who made Greek and Latin a part of everybody else's education as well as their own. Latin and Greek were the only languages in which anything worth much was written, you know. But now"—Jim spread out his arms as if to take in the whole world—"science, the marvelous literature of our tongue in the past three centuries! And to make a child learn Latin with all that, a thousand times richer than all the literature of Latin, lying unused before him!"

"Know any Latin?" asked Mr. Hofmyer.

Jim blushed as one caught in condemning what he knows nothing about.

"I—I have studied the grammar and read Cæsar," he faltered, "but that isn't much. I had no teacher, and I had to work pretty hard, and it didn't go very well."

"I've had all the Latin they gave in the colleges of my time," said Mr. Hofmyer, "if I do talk dialect; and I'll agree with you so far as to say that it would have been a crime for me to neglect the chemistry, bacteriology, physics, engineering, and other sciences that pertain to farmin'—if there'd been any such sciences when I was gettin' my schoolin'."

"And yet," said Jim, "some people want us to guide ourselves by the courses of study made before these sciences existed!"

"I don't, by hokey!" said Mr. Hofmyer. "I'll be daggoned if you ain't right. I wouldn't 'a' said so before I heard that speech, but I say so now."

Jim's face lighted up at this, the first convincing evidence that he had scored.

"I b'lieve too," went on Mr. Hofmyer, "that your idee would please our folks. I've been the standpatter in our parts, mostly on English and—say German. What d'ye say to comin' down and teachin' our school? We've got a two-room affair, and I was made a committee of one to find a teacher."

"I—I don't see how—" Jim stammered, all taken aback by this new breeze of recognition.

"We can't pay much," said Mr. Hofmyer. "You have charge of the dis-*cip*-line in the whole school, and teach in number two room. Seventy-five dollars a month. Does it appeal to ye?"

Appeal to him! Why, eighteen months ago it would have been worth crawling across the State after, and now to have it offered to him—it was stupendous! And yet, how about the Simmses, Colonel Woodruff, the Hansens, Newton Bronson, just getting a firm start on the upward path to usefulness and real happiness?

How could he leave the little, crude, puny structure on which he had been working—on which he had been merely practicing—for a year, and remove to the new field? Jim was in exactly the same situation in which every able young minister of the Gospel finds himself sooner or later. The Lord was calling to a broader field, but how could he be sure it was the Lord?

[CONTINUED ON PAGE 21]

E-W

"Old Folks at Home"

A Happy Family

By Jas. A. King

I HAD gone down into the southeastern part of Iowa to judge the field and garden exhibits of a clean and successful little country fair. It was one of those fairs from which all questionable amusements and attractions are excluded. The prizes offered were not large, but competition was keen and friendly. People came from miles and miles in all directions to watch the sports, to see the exhibitions of farm stock and field and household products.

It was through a friend and associate that I had been asked to judge these exhibits. This friend is one of the keenest, most careful and accurate men in conducting scientific research and experimentation I have ever met; a man well known throughout the agricultural West, and from whom much will be heard in coming years. He is clean, clean as a hound's tooth. He asked his aged father and mother to entertain me in their farm home while I was attending their county fair.

Late in the afternoon they picked me up at the agricultural hall and took me to their home a few miles from the town. It was a modest home on an eighty-acre farm, located just where the prairie and woodland meet near the beautiful Cedar River. A part of their farm was ten acres of virgin woodland; one of the few spots in Iowa that have not known the touch of that arch destroyer, the ax.

Though my friend had spoken to me often of his old father and mother, and had always spoken with fondness and reverence, yet he had told me practically nothing about them. He had looked forward to such a time as this, and had purposely waited until I should meet them in their own home and know and judge them for myself.

During the evening chat after supper their two grandchildren came into the room from the other part of the house where lived the oldest son. A bright boy of about eight years climbed into his grandfather's lap as though it were a familiar nook to him. I could see that they were boon companions by the way the old man laid a hand on the boy's shoulder and said:

"Well, laddie, I saw a rare sight today."

"What was it, Grandfather?"

"What do you think?" he said in the awed voice of a little child. "A bird walking on the water!"

"Why, Grandfather, you're joking, aren't you? Wasn't it just flying low? Birds don't *walk* on the water, do they?"

"Yes, my son, it was actually walking on the water. Taking steps much like when walking on the land; only it fluttered its wings a little as it went along, so as to hold itself out of the water. I wished, when I saw it, that you had been with me to see it too."

"What kind was it, Grandfather? I never heard of such a bird, and you and I've discovered most all that come here, haven't we?"

"It was a coot, my son." Then turning to me he continued: "It is unusual for a coot to come onto our waters here, but I have seen a very, very few of them. I always watch for them, though, when I am around the haunts of the water fowl."

Then the old man told me of some of the things he had found in his daily rambles about the fields, the streams, and the woods; of rare birds, animals, and flowers for which he watched each year, and how sometimes it had been years before he found them. That day he had plucked fruited branches from the only tree in all his little unspoiled forest which he did not recognize, in hope that I could tell him what it was. I could not, but I later found the name and sent it to him.

It seemed that the evening had no more than begun than it was late bedtime. My delightful host led me to the room that was to be mine for the night, saying that it was the room of my friend, his son, and that it was never used except when the son was home, or when they were visited by some close friend of his. When the dear old man left me, his parting word was to wish that my sleep would be dreamless; or, if I should dream, that the dreams might be sweet ones.

The room I occupied seemed to be directly over the one occupied by the two old people, for their subdued voices came softly through the warm-air register in the floor of the room. Then I heard the old man's voice in holy prayer as he communed with his Maker. He talked with his God as though he looked upon Him as a powerful personal friend. And in his prayer he asked divine protection and care for each member of the family, mentioning them by name and asking some special favor for each. Then he invoked the same watchful care and blessings for me, "the friend of our dear son, who is a guest within our home tonight."

For some time I lay thinking over the rare evening I had been privileged to spend; of the beautiful home life of which I had caught a glimpse.

Here was a man in declining years. His whole life had been spent on this farm to which he and his wife had come as bride and groom. Out of their life on that farm he had won such pure joy and holy happiness as few people get from life. His day's work had always been to him a co-operation with nature. His daily companions had been the flowers, the birds, and the little animals about him; and he knew them all by name, knew their habits and their lives. Each day had brought some new adventure in happiness. His years had been spent in Nature's wonderland, whose occupants were his daily friends. So delightful to him had been the years on this farm that he had no thought of spending any of his life away from it.

I finally went to sleep, and wakened in the morning to realize that his hospitable wish had been granted—my sleep had been dreamless. I left them that morning to return to my work. In my mind was a new vision of life, a new outlook upon the things about me. And through the years that have passed since then I have carried fragrant memories of that night spent in one of the most delightful homes I have ever been privileged to enter.

It was no home of luxury and culture as the world measures these things. But in it I found a culture of mind and of heart that are the finest gems in the world.

Could we all put into our work that nobility which this grand old man had put into his, and if we could find such intense interest in the common, everyday things of our lives and take such pure joy in them as he did, strife and discontent would fade away.

Milk for Our Babies

By Dr. Leonard K. Hirshberg

THE superiority of mother's milk lies in the fact that it contains all of the nutritive elements needed by the baby, in precisely the right proportions—and nothing else.

It is easy enough to prepare an artificial food that contains one or more of these elements, but no man has yet invented one that contains all of them. Again, it is impossible to rid artificial foods of certain things whose presence in the baby's stomach causes trouble.

Mother's milk is digested easily and rapidly, while cow's milk, which is a very different food, is digested with difficulty, and sometimes not at all. More important even than its lack of digestibility is the fact that cow's milk, as it is received from the dairyman, is alive with a multitude of germs that are never found in mother's milk. There is no doubt that, if the latter were stored in vessels and transported long distances before being fed to babies, it would be just as bad, but everyone knows that it is never so stored and transported. It reaches the baby's stomach warm and fresh and without exposure to the air, and so it is always clean and pure.

When a cow is milked the milk takes up floating germs from the air through which it passes in its descent to the can. These germs begin to multiply at once and with enormous rapidity. According to some observers the process begins within thirty seconds. If the can is unclean or has been washed with contaminated water, if the milkman has dirty hands, or if the cow itself is infected with tuberculosis or any other infectious disease, other and more virulent germs reinforce those of the air, and before long the innocent-appearing can of fresh milk is swarming with poisons.

It is impossible to stamp out these poisons entirely, but proper handling of the milk greatly reduces their number. The milk must be cooled, and it must be kept cool until it is used. Also, it must be transported, not in open cans, but in air-tight bottles.

Once free of germs, or reasonably so, cow's milk is still very inferior to mother's milk, if the mother is healthy and has a normal supply.

Strangers in Our Homes

By Aletha Walker

IT OFTEN happens that parents who are most particular about choosing playmates and companions for their children outside the home are careless about their children's associations with the grown-ups who enter their households as hired help or boarders or strangers of one kind and another. In the kitchen, in the field, in the living-room, the children come in contact with these strangers. Parents should exercise care when they open the doors of their homes.

I can remember tales of the most sordid kind told me at an impressionable age by a girl who was a member of our family for a time. For many years they influenced and corrupted my ideas.

Some of the jokes which I overheard among men in the field caused me to wonder if my father was like the people he employed.

I have talked with men who claimed they first learned to gamble when they were mere boys on the farm. Some stranger temporarily housed in the family had taught them to play.

A man owes it to his growing children to see that they have only the best influences, for he does not know which of his offspring will form a bad habit because "somebody" showed him how.

Every woman and every man doubtless knows of some revolting actions on the part of people of whom better things might be expected. When there are children whose entire life may be influenced by the habits of those who are admitted into the household, every other consideration should give way to protecting the young people.

Cooking Utensils I Like

DEAR FIRESIDE EDITOR: It is not always easy to decide what kind of ware is best for cooking utensils, for every kind has its own advantages and disadvantages, and all are more suitable for some things than for others.

Some women speak strongly in favor of aluminum, and are saving dimes and dollars in order one day to own a complete outfit of that ware.

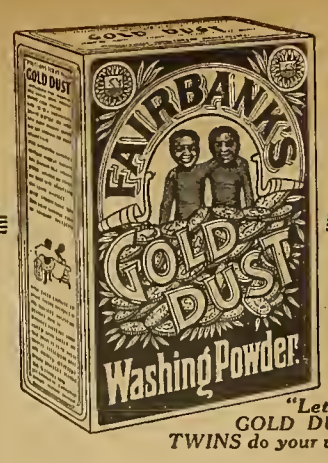
Others, and I am among the others, have a preference for aluminum in some utensils, but do not want it at all for others. For instance, I don't care the flip of a penny for an aluminum baking dish intended for custards, soufflés, and dishes which require moderate heat, because the aluminum heats too quickly and too intensely—an excellent quality in a breadpan or pie plate, but less desirable for eggs and milk. I much prefer a baking dish of white enamel, or even the ordinary gray granite; and still better for such purposes is the old-fashioned yellow porcelain baking dish. An aluminum frying pan or skillet is desirable, and a teakettle of that material is always a delight if it has a handle of wood or some other material which heats slowly. One of the virtues of aluminum is that acids have no effect on it, so it is desirable for preserving kettles or saucepans in which tomatoes and other acid foods are to be cooked.

As far as wearing qualities are concerned I have not found a great deal of difference between the Austrian and American enamel and agate ware: either will break and chip if carelessly handled. They won't stand hard blows, and will soon wear out if left empty over a hot fire.

With reasonable care both are durable. Both of them heat slowly and retain the heat for a long time; and both become stained by food.

I know of no better method of removing these stains than to fill the saucepan with soft water, add to it some baking or washing soda—about one tablespoonful to each quart of water—and heat the water slowly to boiling point. Keep it at this temperature for ten to fifteen minutes, then pour out the water and immediately rub the dish over with a cleaning soap.

Invariably the stain will entirely disappear and the saucepan look like new. This is an excellent way to remove brown stains from the inside of tea and coffee pots. Don't try it on your aluminum dishes, however, for it will dull them beyond remedy. E. C. S.



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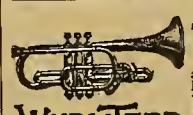

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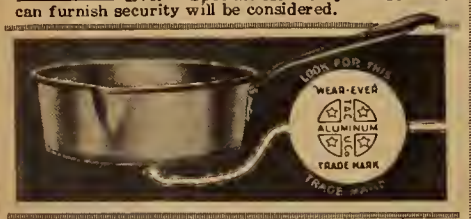

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From Soup to Salad

Some New Recipes for the Housewife

By AVIS GORDON VESTAL

A GOOD soup is a fitting introduction to a good dinner. It is not the "extra trouble" that some cooks consider it, once the knack of making it is learned. It serves as an appetizer, it is in form easy to assimilate, and by its warmth it prepares the stomach to digest the meal. It should be served as hot as possible, and in smaller amount it a heavy meal is to follow than if it is to be of itself a main factor in the dinner.

A thin, clear meat soup, or bouillon, has practically no nourishment, but is pleasing in flavor.

A meat soup with vegetables, or a cream soup of fish or vegetables, contains much real food value.

Undoubtedly, in many cases, the soup purchased in cans is more convenient and less expensive if soup is served only occasionally, but many housewives like to make use of the products of the home garden. The recipes here given were planned for those of us who have gardens, and of course most of us have.

Salads add charm to a meal if daintily garnished. They are of great variety.

A chicken or salmon salad can take the place of the usual hot meat, and this is a welcome change in summer.

A salad of green, fresh vegetables of some sort can be made at any time through the spring, summer, or early autumn if one is careful to plant the garden with this in view. During the winter, potatoes, canned beets and peas and string beans, onions, celery, apples, and nuts are available as salad makers.

Salmon salad

Fruit salad

Tomato-oyster soup

Fruit salads may be served as desserts. All salad ingredients should be cold and dry, so that they may not thin the dressing with water. Dressings should be added at the last moment before serving.

The dinners shown below present some tasty soups and salads whose recipes I am here giving. All measurements in the recipes are level.

Tomato-Oyster Soup—Strain a pint of stewed fresh or canned tomatoes through a wire sieve to remove seeds. To the pulp add a pinch of soda to counteract a part of the acidity and keep the milk from curdling. Into the hot tomatoes pour a pint and a half of hot milk. Thicken slightly, using a tablespoonful of flour moistened with water. Season with salt, pepper, and a lump of butter. Add last a pint of scalded oysters.

Salmon Salad—Flake a can of salmon with a fork, removing bones and skin. A pound of fresh salmon, previously cooked, may be used instead. Mix with the fish chopped celery and sour pickles. In summer use lettuce instead of celery. Chopped olives may also be added if liked. Mix with cream dressing and garnish with lettuce, parsley, hard-boiled eggs, or slices of lemon.

Cream Dressing—This is made of the yolks of three eggs, one tablespoonful of sugar, one-half cupful of vinegar, two tablespoonfuls of flour, one tablespoonful of butter, one teaspoonful each of salt and dry mustard, and a sprinkling of black pepper or paprika. Mix the dry ingredients, then moisten them with the beaten egg yolks. Add the vinegar and cook until stiff, stirring constantly. Add butter last, and remove from the fire. This will keep a long time in a cool place. When ready to use, thin with whipped or plain cream, either sweet or sour.

Cream-of-Corn Soup—Use one can of corn, either chopped or pressed through a sieve. Make a sauce of one quart of milk, three tablespoonfuls of flour, and four tablespoonfuls of butter; then add the corn, and season with salt and pepper. As milk soups scorch easily it is best to cook them in a double boiler. Lacking this, cook in an ordinary vessel over a low fire or upon an asbestos mat.

Potato Salad—Cut cold boiled potatoes into half-inch cubes or in thin slices. To each cup of potato add three chopped hard-boiled eggs and a tablespoonful of canned pimento. Mix with cream dressing. If in season, serve upon a platter of shredded lettuce.

Egg Soup—The foundation is a quart of clear, strained stock made from beef, veal, or chicken. In this meat soup simmer four tablespoonfuls of rice until tender, then press through a sieve and return to the kettle. Beat the yolks of two eggs, and into them pour a little of the soup, stirring carefully. Add this to the remaining soup, stir a moment, and remove from the fire. Season and serve. Do not allow it to boil after adding eggs.

Pineapple-Cheese Salad—If lettuce is in season, serve each portion of salad upon a lettuce leaf laid upon a dessert plate. For each person use one slice of canned pineapple. Upon its center lay a ball of cottage cheese. A pimento - stuffed olive upon the cheese gives a pleasing color contrast. Serve with cream dressing diluted with four parts of whipped cream to one of dressing.

Cream-of-Beet Soup—Scrape or grate four new beets, or a pound, into water enough to cover, and stew until tender. Fry a slice of onion in a tablespoonful of butter and put it, together with a bay leaf and a blade of mace, into a quart of milk and heat in a double boiler. When hot add the beets and thicken with a tablespoonful of cornstarch moistened in cold water. Cook until creamy, season with salt and pepper, press through a sieve, add a tablespoonful of butter, and serve.

Fruit Salad—Combine sliced oranges and bananas with chopped nuts, or substitute pineapple for the bananas. Be careful to remove as much as possible of the tough membranes, separating the segments of orange. Mix with the dressing given below.

Special Fruit-Salad Dressing—Beat the yolks of two eggs. Add one tablespoonful of sugar, juice of two lemons, and half a cupful of strained honey or maple syrup. Cook in a double boiler. When cold add half a cupful of whipped cream. This is delicious.

Cocoa—For each cup of cocoa wanted allow one cupful of milk (part water may be used, but milk is better), one teaspoonful of sugar, and one teaspoonful of cocoa. Heat the liquid to boiling point, and add a little to the cocoa and sugar which have been thoroughly mixed together. Mix to a smooth paste and stir into the hot milk. Let it boil for a few minutes and it is ready to serve.

1	3.
Tomato-Oyster Soup Salmon Salad, Cream Dressing Scalloped Potatoes. Beet Pickles Doughnuts. Coffee	Egg Soup Beef Loaf. Spaghetti, Tomato Sauce Succotash Pineapple-Cheese Salad. Coffee
2	**4**
Cream-of-Corn Soup Baked Sausage with Apples Potato Salad. Baked Squash Coffee. Cake	Cream-of-Beet Soup Veal Stew. Sweet Potato Croquettes Creamed Onions Fruit Salad, Special Dressing. Cocoa

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F.W

The Brown Mouse

[CONTINUED FROM PAGE 18]

"I'm afraid I can't," said Jim Irwin, "but—"

"If you're only 'fraid you can't," said Mr. Hofmyer, "think it over. We'll write you a formal offer. We may spring them figures a little. Think it over."

"You mustn't think," said Jim, "I haven't made any mistakes or failures. We haven't succeeded in adopting a successful system of selling our cream. I believe we can, but we haven't."

"Wal," said Mr. Hofmyer, "I d'know as I'd call that a failure. The fact that you're tryin' of it shows you've got the right idees. We'll write yeh, and mebbe pay your way down to look us over. We're a good crowd the neighbors think."

XXXII

"Think About It"

AMES was an inspiration. Jim Irwin received from the great agricultural college more real education in this one trip than many students get from a four years' course in its halls, for he had spent ten years in getting ready for the experience. The great farm of hundreds of acres, all under the management of experts, the beautiful campus, the commodious class-rooms and laboratories, and especially the barns, greenhouses, gardens, herds, and flocks filled him with a sort of apostolic joy.

"Every school," said he to Professor Withers, "ought to be doing a good deal of the work you have to do here."

"I'll admit," said the professor, "that much of our work in agriculture is pretty elementary."

"It's intermediate school work," said Jim. "It's a wrong to force boys and girls to leave their homes and live in a college to get so much of what they should have before they're ten years old."

"There's something in what you say," said the professor, "but some experiment-station men seem to think that agriculture in the common schools will take from the young men and women the felt need, and therefore the desire to come to the college."

"If you can't give them anything better than high-school work," said Jim, "that's so; but if the science of agriculture is what I think it is, it would make them hungry for the advanced work that can't be done at home. To make the children wait until they're twenty is to deny them more than half what the college ought to give them—and make them pay for what they don't get."

"You're right," said the professor.

"Give us the kind of schools I ask for," cried Jim, "and I'll fill a college like this in every Congressional district in Iowa, or I'll force you to tear this down and build larger."

The professor laughed at his enthusiasm.

More nearly happy, and rather shorter of money than he had ever been, Jim journeyed home among the companions from his own neighborhood, in a frenzy of plans for the future. Mr. Hofmyer had dropped from his mind until Con Bonner, his old enemy, drew him aside in the vestibule of the train and spoke to him in the mysterious manner peculiar to politicians.

"What kind of a proposition did that man Hoffmeister make you?" he inquired. "He asked me about you, and I told him you're a crackerjack."

"I'm much obliged," replied Jim.

"No use in back-cappin' a fellow that's tryin' to make somethin' of himself," said Bonner. "That ain't good politics, nor good sense. Anything to him?"

"He offered me a salary of seventy-five dollars a month to take charge of his school," said Jim.

"Well," said Con, "we'll be sorry to lose yeh, but you can't turn down anything like that."

"I don't know," said Jim. "I haven't decided."

Bonner scrutinized his face, as if to find out what sort of game he was playing.

"Well," said he at last, "I hope you can stay with us, o' course. I'm licked and I never squeal. If the rist of the district can stand your kind of thricks, I can. And say, Jim"—here he grew still more mysterious—"if you do stay, some of us would like to have you be enough of a Dimmycrat to go into the next convintion f'r county superintendent."

"Why," replied Jim, "I never thought of such a thing!"

"Well, think of it," said Con. The county's close, and wid a pop'lar young educator, an' a farmer too, it might be done. Think of it."

It must be confessed that Jim was almost dazed at the number of "propositions" of which he was now required "to think," and that Bonner's did not at first impress him as having anything back of it but blarney. He was to find out later, however, that the wily Con had made up his mind that the ambitions of Jim to serve the rural schools in a larger sphere might be used to bring to earth what he regarded as the soaring political ambitions of the Woodruff family.

Jim had scarcely taken his seat in the car, facing Jennie Woodruff and Bettina Hensen in the Pullman seat, when Columbus Brown, pathmaster of the road district, came down the aisle and called Jim to the smoking-room.

"Did an old fellow named Hoffman from Pottawattamie County ask you to leave us and take his school?" he asked.

"Mr. Hofmyer," said Jim, "—yes, he did."

"Well," said Columbus, "I don't want to ask you to stand in your own light, but I hope you won't let him toll you off there among strangers. We're proud of you, Jim, and we don't want to lose you."

Proud of him! Sweet music to the underling's ears!

"The fact is," said Columbus, "I know that Woodruff District job hain't big enough for you any more, but we can make it bigger. If you'll stay, I believe we can pull off a deal to consolidate some of them districts, and make you boss of the whole shooting match."

"I appreciate this, Clumb," said Jim, "but I don't believe you can do it."

"Well think of it," said Columbus. "And don't do anything till you talk with me and the rest of the boys."

"Think of it," again!

A fine home-coming it was for Jim, with the Colonel at the station with a double sleigh, and the chance to ride into the snowy country in the same seat with Jennie—a chance which was blighted by the Colonel's placing of Jennie, Bettina, and Nils Hansen in the broad rear seat, and Jim in front with himself. A fine ride just the same, over fine roads and past fine farmsteads snuggled into their rectangular wrappages of trees set out in the old pioneer days. The Colonel would not allow him to get out and walk when he could really have reached home more quickly by doing so—no, he set the Hansens down at their door, took Jennie home, and then drove the lightened sleigh merrily to the humble cabin of the rather excited young schoolmaster.

"Did you make any deal with those people down in the western part of the State?" asked the Colonel. "Jennie wrote me that you've got an offer."

"No," said Jim, and he told the Colonel about the proposal of Mr. Hofmyer.

"Well," said the Colonel, "in my capacity of wild-eyed reformer I've made up my mind that the first four miles in the trip is to make the rural teacher's job bigger. It's got to be man's size, a woman's-sized job, or we can't get real men and women to stay in the work."

"I think that's a statesmanlike statement of it," said Jim.

"Well," said the Colonel, "don't turn down the Pottawattamie County job until we have a chance to see what we can do. I'll get some kind of a meeting together, and what I want you to do is to use this offer as a club over this helpless school district. What we need is to be held up. Do the Jesse James act, Jim."

"I can't, Colonel!"

"Yes, you can, too. Will you try it?"

"I want to treat everybody fairly," said Jim, "including Mr. Hofmyer. I don't know what to do, hardly."

"Well, I'll get the meeting together," said the Colonel, "and in the meantime think of what I've said."

Another thing to think of! Jim rushed into the house and surprised his mother, who had expected him to arrive after a slow walk from town through the snow. Jim caught her in his arms, from which she was released a moment later, quite flustered and blushing.

"Why, James," said she, "you seem excited! What's happened?"

"Nothing, Mother," he replied, "except that I believe there's just a possibility of my being a success in the world!"

"My boy," said she, laying her hand on his arm, "if you were to die to-night, you'd die the greatest success any boy ever was, if your mother is any judge."

Jim kissed her and went up to his attic to change his clothes. Inside the waistcoat was a worn envelope which he carefully opened, and took from it a letter much creased from many foldings. It was the old letter from Jennie, written when the comical mistake had been made of making him the teacher of the Woodruff School. It still contained her rather fussy cautions against being "too original," and the sage statement that "the wheel runs easiest in the beaten track." It was written before the vexation and trouble he had caused her, but he did not read the advice, nor think of the coolness which had come between them—he read only the sentence in which Jennie had told of her father's interest in Jim's success, ending with the underscored words, *"I'm for you too!"* "I wonder," said Jim, as he went out to do the evening's tasks, "I wonder if she is for me!"

[CONTINUED IN NEXT ISSUE]

EW

The Agency of a United People

A striking comparison between a homogeneous country and a heterogeneous group of countries is obtained by placing over the map of the United States the map of Europe. These represent the same area—about 3,000,000 square miles—if a few of the remote provinces of Russia are omitted.

Europe has the advantage in population, with more than four times as many people as the United States; in the number of large cities, with two and a half times as many cities of over 100,000 population.

Yet the United States, a comparatively young country, has outstripped Europe in the diffusion of civilization, because of its wonderfully greater means of communication between all parts of its area. The United States not only excels in transportation facilities, but it has nearly three times as many telephones as Europe, or about eleven times as many in relation to population.

By the completion of the Transcontinental Line we now talk from one end of this country to the other, while in Europe the longest conversation is no farther than from New York to Atlanta, and even that depends on the imperfect co-operation of unrelated systems.

Europe, with twenty-five countries and many different languages, serves as an illuminating contrast to the United States, with one language and a homogeneous people, despite the fact that our population has been derived from all parts of the world.

During the last forty years the steadily extending lines of the Bell System have contributed in no small measure to this amalgamating of different races. The latest achievement—the linking of coast to coast—has given greater force to the national motto, "E Pluribus Unum."

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CHIEF OF STAFF

The Crowell Publishing Company, 381 Fourth Ave., New York.

KNOX MEAT LOAF

THIS LOAF IS MADE FROM "LEFTOVER" MEAT AND

KNOX SPARKLING GELATINE

Soak 1 envelope Knox Sparkling Gelatine in 1 cup cold water 5 minutes. Add 1 onion, grated, and stalk of celery to 1 pint rich stock, well seasoned, and after boiling a few minutes, strain and pour over the softened gelatine. Add juice of a lemon, and when the jelly is beginning to set, mould in 2 cups cooked and chopped veal, chicken or other meats. Slice and serve on platter.

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32 to 46 bust. The pattern is ten cents

No. 2346—Five-Gored Skirt: Plaits in Back
22 to 36 waist. Width at bottom in 24-inch waist, two and three-fourths yards. The price of this pattern is ten cents

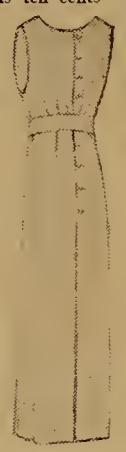
The above illustration shows pattern No. 2759 opened at the neck. This style is more comfortable for hot weather and will be a favorite.

No. 2436—Work Apron in Three Styles
32, 36, 40, and 44 bust. The price of this pattern is ten cents

No. 2759—Waist with Collar in Two Styles
34 to 46 bust. The pattern is ten cents

No. 2706—Yoke Skirt with Plaited Panels
24 to 32 waist. Width at bottom in 24-inch waist, three and one-half yards. The price of this pattern is ten cents

DO YOU know that you can have any of the garments shown on this page for very little money? The materials will not cost mnch, and they can be easily and quickly made from Woman's Home Companion patterns. For directions for ordering these patterns see opposite side of page.



WHEN you want the patterns shown on this page make your selection, enclose stamps in payment with your letter, and address Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City, or Pattern Department of FARM AND FIRESIDE at Springfield, Ohio.

The above illustrations show three ways of making aprons from No. 2436.

No. 2345
No. 2346

No. 2733 No. 2735 No. 2736

No. 2759
No. 2706

No. 2733—Girl's Long-Waisted Dress: Plaited Skirt
6 to 12 years. The price of this pattern is ten cents

No. 2735—Boy's Bloused Suit with Straight Trousers
4 to 8 years. The price of this pattern is ten cents

No. 2736—Girl's Empire Dress: Kimono Yoke
2 to 8 years. The price of this pattern is ten cents

No. 2640—Boy's Rompers with Kimono Sleeves:
1 to 6 years. The price of this pattern is ten cents

No. 2640 No. 2736 No. 2735 No. 2733 No. 2640

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FANCY-WORK BOOK

It contains designs and directions for making nearly fifty different patterns of knitted laces. This book embodies all the latest ideas in needlework, crochet, knitting and embroidery. Many charming crochet patterns, also instructions for making many useful articles of wearing apparel and numerous articles for home decoration, among which are tidies, chair-scarfs, doilies purses, table mats, shopping bags, lamp shades, shawls, Afghans, toilet sets, counterpanes, sofa cushions, chair-covers, pin-cushions, dressing slippers, babies' socks, etc. Full and complete instructions accompany each design, together with an explanation of the terms used in knitting and crocheting, etc. It also contains full and complete instructions in the art of embroidery, with numerous beautiful designs. The whole is illustrated by 95 handsome engravings, and the whole subject of ladies' fancy work is made so clear in this book that with it as a guide one may become an adept in art. It is a book of 64 large double-column pages neatly bound in attractive paper covers, and will be sent postpaid to anyone sending 10c for a six months subscription to, The Family Magazine, Desk 24, Springfield, Ohio.

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For Only **25c**

We Will Send THE HOUSEWIFE (Until December, 1915) Four Beautiful Roses and the Essential Book on Gardens

A wonderful offer at this time when everyone's thoughts are turning to the garden and the great world outdoors. The roses are an ideal adornment for any plot of ground. They are hardy, everblooming plants and with them and the knowledge easily acquired from the excellent book, "What, Where, When and How to Plant," published by one of the greatest firms of horticulturists in the country, it will be an easy matter to lay out a garden which will be a perpetual delight to the owner.

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If you do not know The Housewife, now is the time to get acquainted with the greatest woman's paper published at 50 cents a year. First published in 1883 and now in its thirty-second year. It caters especially for the woman whose chief interest is centered in the welfare of her home and her family. Its moderate price appeals to the economist and yet the quality of its contents is fully equal to that of the magazines which are many times as expensive. It is essentially a home magazine, edited by women for the home-maker with a view to its suitability for reading in the home; no questionable story or line of doubtful meaning is ever allowed to appear in The Housewife. Its stories are from the pens of some of the foremost writers in America. These run the gamut of all the emotions and yet are always sane, healthy and thoroughly suitable for home reading. Besides the excellent fiction it provides, The Housewife also gives a vast amount of help in the various departments connected with the home and its comforts. The Hints on the Care and Feeding of Children, on Housekeeping, on Mother's Hints and on every other home activity, always contain a number of valuable suggestions which can be used to advantage by the wise housewife. Taken all in all The Housewife is an excellent magazine for the busy woman, furnishing her with bright, attractive reading matter for her leisure moments and also practical hints of value in her every day duties.

To introduce you to The Housewife we are making this offer of The Housewife until December 1915 for only 25 cents. Take advantage of this opportunity at once as the sooner you subscribe the more numbers you will get for the same subscription price. We will also give to every subscriber at this special rate, FOUR beautiful ROSES, from one of the greatest rose-growing sections of the country.

ROSES FOR YOUR FLOWER GARDEN

Whether you have a large lawn or only a small yard these roses will be equally acceptable. They are all thoroughly hardy plants of the everblooming varieties, chosen for their durable qualities.

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A real joy to the grower and absolutely distinct. Color is copper-orange in the open bud, shading to pinkish-fawn when fully open.

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(New Fiery-Red Rambler)
A splendid, new climbing rose, remarkable for the brilliant fiery-red of the flowers.

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We are also offering at this time one of the most useful books for the small gardener which has ever been put before the public. It answers in a clear, lucid and practical manner the four great questions in gardening, What, Where, When and How to Plant. It contains instructions in reference to trees of all kinds, fruit and ornamental, and also for the care of berry plants, roses, shrubs, evergreens, vines and perennials. The division of the book is thoroughly practical and the advice is couched in crisp, clear language which at once conveys its meaning. In the end of the book is a list of the most suitable varieties of plants for various conditions, together with some suggestions for laying out shrubberies and land generally.

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EW

Parcel-Post Meals

Good Dinners Sent by Mail

By Melva I. Gregory

ONE day I noticed that there appeared in all the papers in a certaiu city the advertisement of country dinners—complete in every detail, even to the flower decorations—which would be supplied by parcel post. These notices continued for a week, and by that time my curiosity was so keen that I decided to visit the euterprising husband and wife who were carrying on the busiuess.

They were located tweuty miles from the city, in a place where farm rent was comparatively low. They told me they had all the orders they could handle, and were making a handsome profit.

The Way She Did It

"Explain to me," I said, "just how you plan and prepare your boxes."

"Come with me into the kitchen," said my hostess, "and I will show you the box which I am just preparing to send off."

I followed her into the kitcheu. Iu the packing case lay a plump young broiler, flanked on one side by perfectly made *Schmier Käse*, on the other by a bottle of Jersey cream, rich and golden. On the table waiting to be wrapped were four ears of green corn, a few young potatoes, tender green beans, and a pint of shelled peas. Raspberries such as one seldom sees on city markets were there, picked with the morning dew on them, and a pound of sweet goldeu butter.

"Just one thing more," said my hostess, leading the way into her dining-room. There stood clusters of old-fashioned clove pinks, making the air heavy with their spicy sweetness.

"I find the majority of my customers," she said, "love old-fashioned flowers. Sometimes I find it better to leave my garden and gather them from the fields and woodland. Wild flowers of all kinds, if properly packed in moss, are lovely, and seem to charm city people by the breath of the country which they bring with them. Field daisies are exquisite, and in the fall goldenrod, asters, cosmos, and even the gorgeous autumn leaves decorate most beautifully. Even when Thanksgiving and Christmas time come, the woods can be counted ou for their glorious bitter-sweet aud the uestling winter fern.

"In cold weather when vegetables fail there are still many opportunities for delicious meals.

"Of course I make it a poiut to can fruits and vegetables for winter use, and there are various delicious cold desserts to which whipped cream may be added, and there are salads, pressed chicken, country sausage, apple butter, and innumerable things which tempt city people."

"Don't you find it difficult," I asked, "to comply with all the parcel-post regulations? It fairly makes me crazy to read them over."

She smiled.

"At first I found them puzzling too, but now I know just how each thing must be packed, and I keep a supply of containers on hand. A request sent to the Third Assistant Postmaster-General, Washington, D. C., will bring, free of charge, to any address, a booklet put out by the Government, with all the rules and regulations concerning parcel post."

It was about a month after this visit to the country kitchen that I happened to lunch with a friend of mine in town.

"I am going to give you a kind of dinner which I believe you have never eaten," my friend said to me, "a parcel-post dinner which has just arrived from a farm twenty miles away."

When I Ate It

I asked in great excitement whether the farm which had supplied this dinner was the one which I had visited, and to my great delight I learned that it was.

"Do you really find," I asked, "that this sort of meal is satisfactory?"

"Indeed I do," she answered with enthusiasm. "I know that everything which is sent me is freshly gathered and prepared, and is packed so as to be protected from germs and dirt. I have always hated the thought of the way things are handled on any city market, or even by the gardeners who drive in, and it is a great joy to buy food of whose cleanliness I am assured.

"Often," she continued, "there are unexpected little surprises in these dinner boxes.

"Once wheu I ordered a company dinner there were polished red apple cups, and an old-fashioned floating island to fill them. Just imagine how quaint the cups were when filled! And these delicious dinners really cost me less than if the middleman had had his dip in them."

E

Why isn't this a fiue opportunity for any woman who loves to make things grow, and who owns or is able to rent a small place in the first or secoud zone from the city?

It is so hard at present to procure competent farm labor that many farmers would gladly rent their small tenant houses which formerly were used for farm hands to live in and are now vacant, and a small tract of land with them. This little house may be made quite cozy, and by the judicious use of fertilizers the few acres will produce wonderfully. An agreemeut should be made for the privilege of renting the ground for a fixed number of years, so that the labor and expense of setting small fruit need not be lost by the termination of the lease.

Such things as blackberries, raspberries, and strawberries bring in quick returns. All kinds of vegetables should be raised, and it is surprising how many kinds there are and how large a yield may be had. One horse will be necessary to get the ground in good condition and tend the truck. A good cow or two and a few dozen chickens will add greatly to the income.

A garden made up for the most part of the flowers which bloomed around our grandmothers' cottages is an important part of the enterprise.

THERE is a piece of a chicken's heart in the Rockefeller Institute in New York which has been kept alive and pulsating outside the chick's body for twenty-nine months. It has not only lived but has grown.

BAKERS of New York City have decided not to raise the price of bread. They prefer to be satisfied with a small profit rather than to stand the official investigation threatened when an increase was talked of.

IT IS probable that this year's wheat crop will break the record for the third time in succession. In 1913 the yield was 684,990,000 bushels. In 1914 it was 891.000,000. This year it may pass the nine hundred million mark.

ON MARCH 10th a Chicago firm sold 250,000 pounds of chickens to England. More orders were reported as held up for lack of fowls with which to fill them. This one order amounted to $44,450—about 13⅓ cents a pound.

POWDERED borax sprinkled around manure piles at the rate of a teacupful to four bushels of manure will keep flies' eggs from hatching. For best results apply the borax with a flour sifter aud theu spriukle liberally with water.

The Best Way to Spell 'Luck'

By Uncle Fred

SAID Johnny, "I learned how to spell luck to-day;
It's a word of five letters, P-L-U-C-K."

Said Tommy, "With you I can hardly agree;
I never heard our folks spell luck with a 'p'."

Said Johnny, "The best kind is always spelled so;
My wise father told me, and he ought to know.

"He says 'luck' should have a big 'P' right before it,
But that lots of people are apt to ignore it.

"And that's why their luck is most always so poor;
They leave off one letter and spell it with four."

Said Tommy, "Such spelling is certainly queer!"
Said Johnny, "The reason for it is quite clear.

"For 'luck' just means 'PLUCK.' If you spell it that way,
You'll remember to do your real best, every day.

"And so it is very essential, you see,
That we never forget to put on that big 'P'."

Said Tommy, "That's so, for the man who is PLUCKY,
I often have noticed is usually lucky.

"He doesn't just wait for his luck, for he's learned
That this is a thing which he first must have earned.

"And so I'll go home to my folks, right away,
And tell them to spell 'luck' P-L-U-C-K."

Ten-Second Topics

RABBITS have become a pest in the interior of Alaska, eating whole fields of grain to the ground. There's some pest everywhere.

KANSAS produced more wheat in 1914 than Canada, Argentina, or Australia.

WHEAT came through the winter in splendid shape almost all over the United States.

THE freight car, not the parcel, feeds the world. Four-fifths the apples handled in the cities come in carload lots.

IN WESTERN Kansas Kafir corn is worth twice as much, acre for acre, as corn. It compares favorably with corn for silage, fodder, or grain.

THE nations now at war are spending 96 per cent of their incomes for military expenses, says a Kansas professor of mathematics. And such incomes!

BALED hay has been shipped to Europe in enormous quantities this winter. Probably the hay exported will equal in money value the exports of cotton. A strange result of the war.

THERE is potash enough for the United States in the kelp beds of the Pacific coasts of Alaska and the Coast States, and enormous amounts of nitrates and phosphates in the waste from the salmon canneries along the same coasts. The Government suggests that money might be made by establishing fertilizer plants to use up these unutilized resources.

THE Alaska Experiment Station at Fairbanks has proved that potatoes can be grown there at a handsome profit. They are sprouted before planting so as to get ahead of the season.

THE legislature of Texas has appropriated $122.50 to pay a bill for punch and chicken salad furnished the executive mansion of Texas when it was occupied by former Governor Colquitt.

THE farmers' co-operative grain elevators of Minnesota did a business of twenty-four million dollars last year. Two millions of this business was in coal, feed, and binding twine. The other $22,000,000 was grain. Some business!

MINNESOTA has more co-operative associations among the farmers than any other State. Nearly one third the co-operative creameries in the United States are in that State, and it has nearly twice as many as any other State.

AUGUST E. BECK of Ft. Wayne, Indiana, made enough money in his department store to last him the rest of his life. So he retired from business. Instead of selling out he gave the business to its employees. He said that they were the people who had made the business a success.

A VALUABLE cattle feed has been made from tomato seeds in Italy. Cattle and hogs owned by people in the neighborhood of tomato canneries have been trying for years to tell their owners that there is food in the refuse of these establishments. They told it by eating the stuff and getting fat.

The Farmers' Lobby

[CONTINUED FROM PAGE 16]

and the like. It is a very complex business, oil-refining, as Mr. John D. Rockefeller will tell you, if you happen to engage him in conversation about it.

Crude oil, then, is like a pile of bricks from a torn-down wall. The gasoline is the dust. The kerosene is the half bricks and spalls. The paraffin and asphaltum are whole bricks of different sorts. The gasoline has always been distilled off. That is, on heatiug the oil the gasoline goes off in vapor, is caught, made into a liquid again—and there you are. This process of distilling is like sifting the pile of bricks. The gasoline dust goes through the sieves first, the kerosene half-bricks fall through the coarser riddles, the lubricating oils next, and the paraffin and asphaltum, being whole bricks, will not go through at all, and are carried over the sieves into their owu pile.

Crushing the Kerosene

Doctor Rittman's idea was simple. He would simply grind up the half-bricks and spalls into dust—which is gasoline! His new system, instead of being a distilling process, simply breaks up the molecules of the heavier hydrocarbons and makes them into lighter hydrocarbons. He literally crushes kerosene up into gasoline.

He does it by heat and pressure. Just how, is not known save in the patent office and iu Doctor Rittman's laboratory. It is announced, however, that he can get from two to three times as much real gasoline out of crude oil as the old system will give, and he can get out of poor crude oil, which now furnishes no gasoline, about as much of it as can be got by the old system out of the best oil.

Now, this thing is very important to all of us. Gasoline has become a necessary of life. Business could not go on without it. The internal combustion engine has caused gasoline to become valuable and scarce, and kerosene to become plentiful and cheap. Rittman will cause gasoline to become plentiful. How cheap it will be depends on the expense of that system of breaking up the kerosene into gasoline. He doesn't say it will be cheaper, but Mrs. Rittman is quoted as saying that she believes that gasoline will be decreased in price and that "anyway there will be no shortage of gasoline."

We have all heard of "motor spirit" and "distillate," a very good substitute for gasoline. But this is made by a process monopolized by Standard Oil. The independent oil companies have suffered by the competition of their gigantic competitor on that account. Rittman's discovery promises to put all these oil people on an equal and a new basis.

It Will be Free to Us

"Wou't the Standard Oil Company buy this system of Rittman?" I hear somebody ask. "Or won't someone else buy it, and make the process private property and a source of private wealth to Doctor Rittman and whomever he sells it to?"

No. That is the important point in this article. The process is now being patented for the benefit, not of the inventor and his assigns, but for the people as a whole. It will be free. This young chemist, working for $3,000 a year, seems to have done a job worth millions, and for which he would have been able to get a fortune if he had done it for his own private profit.

The same process derives from crude oil two other very valuable things. One is benzol, which we have got from Germany mostly in the form of dyestuffs. Rittman's discovery will probably make us independent of Germany as to dyes and colored inks. The other is toluol, used in making explosives.

There is something finely noble in service. We love to think of Babcock who devised the Babcock test and gave it to the world. We look with pride to Goethals who built the Panama Canal on an army colonel's pay after two high-salaried engineers fell down on the job.

So Rittman will reap from his discovery, made free to the world, something he could never have received from the commercial interests.

There are many such men in the Government employ—men devoted to unselfish service. We should be proud of them and support their work.

A cow that gives 25 pounds of milk a day in two milkings will give about 26.5 pounds if milked three times a day. So says a German experimenter. The percentage of fat remains the same.

VANILLIN is the active principle which makes vanilla ice-cream so popular. It occurs in the roots of oats and the leaves and roots of a number of plants. It has been found to be poisonous to clover, wheat, cowpeas, and other plants.

Model 80
5 Passenger Touring Car
$1075

Model 81, Roadster - -	$795
Model 80, Roadster - -	$1050
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Model 80, 4 Pass. Coupe - -	$1600

All prices f. o. b. Toledo

Model 81
5 Passenger Touring Car
$850

An American Made Car For Self-made Americans

YOU men who deal in acres, grain, live stock, farms and ranches are largely responsible for the prosperity in America.

Your work is back of every substantial success.

Nowadays hardly anything can be a great national success without your loyal support. You are the big buyers of most of the necessities of life.

What you have accomplished has made the whole country "sit up."

To jump from almost last place, in its class, to first—and to do this in a few years is more than mere success—*it's a feat.*

But that's precisely what the Overland has accomplished. This could not have been done without the aid of the farmer.

You made it possible.

You buy more Overlands than anyone else.

The farmer buys the Overland because in his practical judgment it is the best car and the most car for the very least amount of money.

You know that in the Overland you get just a little more of everything for just a little less money.

As for instance:

The long underslung rear springs.

The electric control button on the steering column.

The high tension magneto ignition.

Large tires—a large roomy tonneau and a powerful economical quiet motor.

The American farmer knows—and buys accordingly.

The Overland is essentially an American made car for self-made Americans.

There is an Overland dealer near you. Look him up and get acquainted.

Send for this Great FREE Book

We have just published a book entitled "Points in Judging An Automobile." This book explains and pictures fifty-eight definite Overland advantages. Send for the book today. It's free. Fill out this coupon.

Mail This Coupon Today

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Dept. 240, Toledo, Ohio, U. S. A.

Please send me free of charge and post paid your book entitled "Points in Judging an Automobile."

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E-W

Farm Boys in the Big Leagues

FARM and FIRESIDE

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PHOTO BY JOHN KABEL

Springtime Glories on the Farm

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The Editor's Letter

At Coolfont Farm, April 14, 1915

FARMING not being a bed of roses, some of us are prone to take too gloomy a view of things. I did, maybe, when I wrote that editorial "Farming Not a Bed of Roses;" and yet it touched a responsive chord in farm homes everywhere. For instance, our friend Charles R. Young of Adams County, Ohio, says:

I was interested in that editorial. The trouble was, it ended too soon. This is about the worst season the farmers ever had. The quarantine has lost us thousands of dollars. Farmers whose herds had to be killed stand to lose 25 per cent, and some say if they don't work together they may lose 100 per cent. Hogs ready for market had to be carried on account of the foot-and-mouth quarantine, and when it was lifted the price was only from $6 to $6.75. Many fed on, hoping for better prices, but got very little more. With living and feed so high we can't raise hogs to sell at $6.50 and make any profit. Several have become discouraged and will raise only hogs enough for their winter's meat.

So writes Mr. Young, and draws a mighty true picture. But there is another side to this. In almost any other country the disease would have got away from the authorities and raged forever—as it does in some very civilized regions. Our Government stamped it out.

And, remember, the Government is paying for worthless animals. A diseased animal has no value. Even 75 per cent is a fine thing to get for a sick beast. I think we ought to get 100 per cent, and shall in most States; but even the loss of a quarter of the value does not make the bed of roses as thorny as if we had to lose the whole, and have our live-stock industry ruined forever.

About the Price of Hogs

As for the price of hogs, Mr. Young is quite right. As most of us feed them there is little in them at $6.75. But instead of going out of the business the canny fellows will try to grow pork more cheaply. I know a Virginian who is growing them on forage crops for $4.50 after counting the cost of wintering the sows, paying the rent and labor and even such things as depreciation of fences. He made over $500 on 32 acres, and fed no grain except what he hogged off. To be sure, he got $8 for his hogs, which is a lot more than $6.50; but he would have made more than wages even at the lower figure.

And is it wise to quit the swine business merely because hogs went off under peculiar conditions? I think not.

But I am interrupting Mr. Young, who has some things to say which we all ought to read:

Hogs are usually sold at 50 cents a hundred under the market to pay the buyer for handling. On the eight miles of road I haul over, a ton is a good two-horse load. This makes about 15 cents a hundred for hauling. So when hogs sell at $6.75 we get about $6.10.

On average roads it is worth 25 cents to haul a ton a mile, or 10 cents a hundred for eight miles. Mr. Young's roads are pretty bad if it costs 15 cents, but he is not to blame for that. And yet, every community is to blame for bad roads. But Mr. Young proves that bad roads are about the most expensive luxury in which we can indulge.

As for the 50 cents a hundred for the middleman, why can't Mr. Young and two, or three, or four, or ten, or twenty, or a hundred of his neighbors form a pool and sell in a body? If I were a buyer I would rather buy all the hogs of such an organization at 25 cents rake-off than to go out and dicker for them for 50 cents, unless I had a monopoly of the business.

We need to do more team work. A good deal can often be done by visiting around and finding out who has hogs to sell, and trying time after time to make up a selling pool. It is done in many places in selling cattle, hogs, lambs, wool, and other things. Why not everywhere?

There are very few hogs pastured in my neighborhood, owing to the absence of fencing. Therefore hogs must be carried through the summer on slop of rye and shorts, and at $6.10 a hundred it doesn't pay to fool with them.

No, I don't believe it does. But if a man owns his farm, if he can make pork for from 4 to 4½ cents by pasturing on rape, wheat, alfalfa, clover, cowpeas, corn, and the like, planted so as to make a succession of crops, he can afford to go in debt for the woven wire. If the farm is rented the case is different; but the landlord who will not buy fencing which will keep the fertility in the land, as such pasturing of hogs will do, is a good deal of a fool. A lot of American landlords are fools, I know; but some of them are getting their eyes open.

Another way in which we get a raw deal is this: When we sell we must take the buyer's price; when we buy we give the seller's price. This doesn't seem fair, but I suppose it will continue as long as the farmer allows it.

This is true. It is true because the farmers of the United States have not thrown off the primeval curse on the man who tills the soil. I don't wish to cast any aspersions on Providence, for I don't approve of throwing the blame on God whenever we make a bad hash of our own affairs. But I could make a pretty good case for the theory that all farmers were cursed when Cain was punished for the murder of Abel.

The Story of Cain and Abel

Cain was a tiller of the soil, and Abel a stockman. The Lord had respect to the offerings of Abel, but for Cain's crops he had no respect. I suppose the spirit in which they were offered made one acceptable, and one not; but the powers that be have ever since adopted the policy of looking on offerings on the market of the fruits of the field as something to take a fall out of. Most governments have been founded in the beginning by victory of stockmen over tillers of the soil.

But the parallel doesn't hold now. The tiller of the soil is usually also a stockman—and we have risen to another plane. David Lubin, who calls attention to the very grievance mentioned by Mr. Young, also shows that in Germany, for the first time in history, on any large scale, the farmers have obtained control of the government.

There is a joint resolution which will be introduced in the next Congress for the appointment of a national marketing commission, the object of which is to have in session in Washington, whenever Congress meets, a commission to represent the farmers.

Mr. Lubin thinks it would be a splendid thing.

I really am not so optimistic, but I think it might do a lot of good eventually.

Herbert Quick

Always in Good Humor

POOR WILLIE!

Little Willie was left alone with sister's beau.

"Mr. Chumpley," he presently said, "what is a popinjay?"

Sister's beau wrinkled his forehead.

"Why—why, a popinjay is a—a vain bird."

"Are you a bird, Mr. Chumpley?"

"Certainly not."

"That's funny. Ma said you was a popinjay, and Pa said there was no doubt about your bein' a jay, an' Sister said there was small hopes of your poppin', an' now you say you ain't a bird at all. That's funny."—Cleveland Plain Dealer.

THE PESSIMIST

Nothing to do but work.
Nothing to eat but food;
Nothing to wear but clothes
To keep one from going nude.

Nothing to breathe but air;
Quick as a flash 'tis gone;
Nowhere to fall but off,
Nowhere to stand but on.

Nothing to comb but hair,
Nowhere to sleep but in bed;
Nothing to weep but tears,
Nothing to bury but dead.

Nothing to sing but songs;
Ah, well, alas! alack!
Nowhere to go but out,
Nowhere to come but back.

Nothing to see but sights;
Nothing to quench but thirst;
Nothing to have but what we've got,
Thus through life we're cursed.

Nothing to strike but a gait;
Everything moves that goes;
Nothing at all but common sense
Can ever withstand these woes
—The Dotted Line.

JUST AT EVENING

The old gentleman beamed upon the little boy who stood on the crest of the hill one night at twilight, a happy, contented smile on his lips.

"I am very pleased to see you watching the beautiful red glow of the setting sun, my little man," he said, patting the youngster's back. "Do you watch it every night?"

The little lad chuckled.

"Oh, no, sir," he said gleefully. "That's not the sun setting. That's our school burning down."—St. Louis Post-Dispatch.

IT WORKED

"Charlie," said the young mother, "I've decided on a name for baby. We will call her Imogen."

Papa was lost in thought for a few moments. He did not like the name, but if he opposed it his wife would have her own way.

"That's nice," said he presently. "My first sweetheart was named Imogen, and she will take it as a compliment."

"We will call her Mary, after my mother," was the stern reply.—St. James Gazette.

IN BAD COMPANY

A countryman in Savannah observed a gang of darkies laboring on the streets, each wearing a ball and chain. He asked one why that ball was chained to his leg.

"To keep people from stealing it," said the darkey; "heap of thieves about here."—N. Y. Times.

HE WANTED TO

He was a kind-hearted boss printer and he liked kids, so he stopped in front of a little boy who was sitting on a doorstep and crying softly.

"What is the matter, lad?" asked the kind-hearted printer.

"M-ma's gone an' drowned all the kittens," he sobbed.

"What a pity! I'm awfully sorry."

"An' s-she p-promised—boohoo—'at I c'u'd do it."

THE COMFORTER

Mother absent from church asks small daughter:

"What was the text this morning, dear?"

"It was, 'Never mind, don't worry, you will get the quilt.'"

Mother, puzzled, writes to the minister asking for the text, and his reply was:

"And behold, the Comforter shall come unto you."

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A Fight for Profits

How One Organization Makes Money For 1,500 Farmers

By BERTHA SNOW ADAMS

"IF YOU sold at a loss, what would you gain if you produced four hundred tons of potatoes to the acre?"

That is a common question asked by W. H. Paulhamus, manager of the Puyallup and Sumner Fruit Growers' Association.

For twelve years the association has enjoyed an uninterrupted success, and a very large measure of that success has been due to its efficient management. The sailing has not always been smooth, however.

It was back in 1898 that the organization really began, and while a number of those responsible for this beginning looked upon it as a hazardous venture, all caught at its possible opportunities as drowning men are said to catch at straws.

As far back as the early nineties there were a good many berry patches scattered through the clearings in and around Puyallup and Sumner, Washington. Their output had so completely swamped the local market that many a grower, after hauling a load of fruit ten miles to the neighboring city of Tacoma, was offered 25 cents for a crate containing 24 short quarts.

All too frequently it happened that cash returns in the height of the season did not cover the cost of picking.

Accordingly the growers banded themselves together to see if they could not better conditions, and find buyers somewhere who would pay a fair price for their product.

Their representative approached express agents along the line of the Northern Pacific, offering them 5 per cent commission if they would push Puyallup berries; and the plan worked admirably. By 1903 the association was shipping 5,000 crates of berries during the season, and the growers were making an average net profit of 75 cents a crate, the f. o. b. cost being 60 cents.

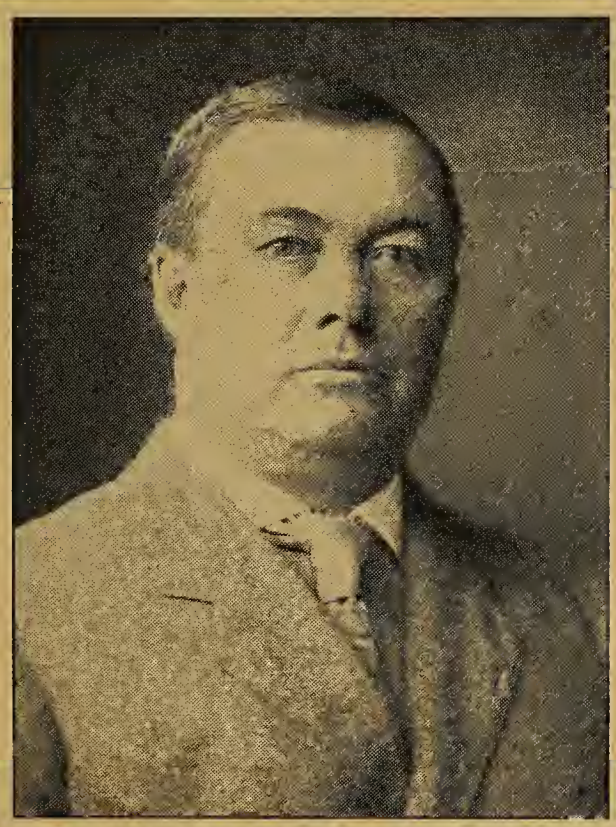
In 1902 the association voted to branch out a bit. Up to that time it had been struggling with the problem of soft berries, berries too ripe to be shipped; and it became obvious that some way must be found to utilize these if the grower was to make any real money. Therefore it was voted to go into the canning business.

Some well-disposed citizen donated the use of a building; the association borrowed a two-horsepower boiler, hired a manager who claimed to be the last word on fruit canning, and started up a cannery.

Speaking of this period in the history of the association, W. D. Cotter, who was the leading spirit at the time, said:

"As soon as we got the building fitted up we promptly proceeded to take the fanciest steps of any cannery in the whole Northwest. We put up a lot of jams and jellies in glass, besides a lot of apple butter, plum butter, and preserved berries; then we started out to sell our goods. But the trade wouldn't buy them. A merchant in Tacoma had the nerve to tell me right to my face that he wouldn't have believed it was possible to put up such junk if he hadn't tasted it himself. Well, we were forced to get in and actually peddle wagonloads of this fancy glass stuff in Seattle and Tacoma, and three years later I used to see it still setting on the shelves of the unfortunate grocers whom we inveigled into buying it."

This expensive experience in fancy canning might have proven fatal to the association, then hardly more than in its infancy, had not W. H. Paulhamus jumped into the breach and consented to act as manager and president.



W. H. Paulhamus, "a dairy farmer by profession, a State Senator by election, an organizer by nature, and a leader by general acclamation." His efforts have for twelve years made this co-operative selling organization a success

Those who know Mr. Paulhamus best say of him: "He is a dairy farmer by profession, a State Senator by election, an organizer by nature, and a leader by general acclamation." This masterful statesman and farmer has been managing the berry industry of the Puyallup Valley for twelve years now, and both the growers and the association have prospered to such an extent that the story of it reads like a romance. His energy has transformed a weak body into an organization that today numbers a good 1,500 members; and that is not the only dominant factor in its own immediate locality, but also a force to be reckoned with in the berry markets throughout the entire Northwest.

Up to the time Mr. Paulhamus took charge of things the growers had never tried to ship farther east than Montana, but one of his first moves was to drum up trade with both the Dakotas, Minnesota, Iowa, and Illinois. He established connections with reliable commission houses, and appointed brokers in all the large markets, sent out sample shipments by express, and followed them with carlots. Then serious difficulties began to present themselves.

The bulk of the fruit shipped out of the valley is red Cuthbert raspberries, which are extremely sensitive. To survive the hardships of a three-days trip they must be handled with great care, and Manager Paulhamus found that he had not only to educate the growers, but also the express agents and the railroads in the handling of raspberry shipments. He inaugurated a most rigid system of inspection, and under it all berries offered for shipment were divided into three classes. Only the very best and most carefully selected fruit was allowed to go east of the Rockies; ripe fruit that would stand up for at least twenty-four hours was sent to the local markets, while all thoroughly ripe berries went to the cannery.

The growers were the first to realize the value of this careful inspection; the express agents were harder to convince. In spite of repeated orders from headquarters to handle crates of red raspberries as if they were boxes of dynamite, many of them persisted in handling the fragile crates as if they were casks of tenpenny nails; and not until the association had caused the worst of the offenders to be suspended for two days without pay did they all learn their lesson.

It is a little more than ten years ago since the first experimental carlot shipment of berries left Puyallup Valley; last year a single Dakota firm contracted for 50 carloads, with a maximum daily delivery of seven cars. Ten years ago 75 cents was the prevailing f. o. b. price for red Cuthbert raspberries, and shipments aggregated less than 10,000 crates in a season. Last year more than 150,000 crates of fresh raspberries were shipped, and the f. o. b. returns ranged from a minimum of $1.14 to a maximum of $2.56 a crate.

Although the association has no salaried traveling salesman to distribute or dispose of its output, but depends entirely upon brokers and commission men working on the percentage basis, yet it has so far had no trouble in marketing its entire stock of shipping grade at a very substantial profit to the producer.

It is needless to say that steady and increasing profits automatically increased the number of berry acres, and with the growth of production the disposal of the fruit unfit for shipping became quite a problem. Wet weather or a hot spell softens the berries, and soft berries cannot stand a long haul; therefore some speedy disposition must be made of them or the grower loses heavily. In 1905 the association decided that it had outgrown the borrowed two-horsepower plant, and the first unit of the present Puyallup cannery was constructed. They made no attempt to do fancy stunts with jams and jellies put up in glass, but they did, however, put up a solid pack of berries preserved in tin cans, with as little water and as much fruit as possible; and they succeeded too, so well that

The work of these Northwestern fruit growers has become of great commercial importance

When the rush season is on, berry pickers are numerous—everybody picks berries

to-day practically all the output is sold before the plant is fired up in May.

Sumner is a thriving little community not far from Puyallup, and there the fruit growers owu and operate auother strictly up-to-date cannery, which calls to mind a tale the valley farmers are all fond of telliug.

It seems that an avaricious citizen of Sumner had for some time heen watchiug the rapidly increasiug berry farms in his ueighborhood, and also the remarkable success of the Puyallup cannery, aud fiually, heing convinced that there was big money to be made, put up a plaut of his own to be operated strictly for private profit. After ruuning it a short time the owuer began to complain that he wasu't making any return on his investment. Although there was an abundance of berries, the Sumner caunery couldn't get hold of auy, for its "get-rich-quick" proprietor offered ouly the going commercial price—$40 to $50 a ton for blackberries, for instance, when at the co-operative cannery in Puyallup, but a few miles away, the growers were getting from $60 to $70 a ton. It wasn't a great while until the Sumner cannery owner called upon the association and begged them to take the plant off his hands at one third its cost.

To forestall possible overproduction, however, the heads of the association are diligently seeking out new channels for the berry industry. Last year hydraulic presses were iustalled to extract the juice from the fruit; that opens up one new channel. Evaporators have been set up ready for use this season, and that opens up another. Evaporated berries have just begun to make an appeal to the consumer, and Mr. Paulhamus is of the opinion that the entire output of the valley could he sold in an evaporated form if necessary. They are also beginning to supply the soda fountains with fresh berries the year rouud.

The original purpose of this organization was co-operative selliug, but it has gradually broadened its field of usefulness to include co-operative huying on a considerable scale. Their efforts in this direction began with the purchase of sugar in big quautities direct from the refineries for use in the canuery.

"Why not let memhers have the benefit of cheap sugar for home use?" somebody wanted to know.

"Why not undertake to reduce the high cost of living for members, as well as the high cost of production?" somehody else inquired.

They Bought as Well as Sold

There seemed to be uo real reason why co-operative buying could not be made as much of a success as co-operative selling had beeu, and from that time on trade in the valley's geueral grocery stores began to dwindle perceptibly. Boxes, crates, fertilizer, and spraying materials had always been handled in carloads by the association, but when they began to purchase flour in trainloads and sell it to the memhers cheaper than the retail grocers could buy it, these same grocers who up to that time had blessed them for the abundant prosperity they had brought into the valley began to change their tune. Coal, hay, grain, and all kinds of feed were soon added to the list of commodities handled, and the associatiou opened two stores that sold at cost plus the expense of operating.

Cheap grain and mill feed stimulated the chicken industry and, "Why not get all we can out of eggs as well as berries?" queried the co-operators. So they went into the egg busiuess—collected the eggs, sorted and marketed them, and returned to the producer the full selliug price less expenses. In spring, when the wholesale price dropped below 20 cents a dozeu, they follow the example of the speculators—stop selling, but continue to pay the producer the going market price. The eggs thus acquired go into cold storage against the time of higher prices, and eggs bought for 20 cents in April are sold for 35 cents in November, and the extra money, less the cost of handling, turned over to the producer.

All these varied euterprises—canuerics, ice plants, stores, warehouses, the marketing of eggs, berries, vegetables and caunod goods—required capital, aud the association had none. Its authorized capital consisted of 2,400 shares with a par value of $1.

It was entirely out of the question to carry ou the growing busiuess of the orgauizatiou with a capital of only $2,400. The bauks wanted 8 per cent, aud were not a bit anxious for the co-operative paper. So the mauagement decided to call upou association memhers for fuuds, offering them the 8 per cent exacted by the banks, and in less than three weeks the notice "Mouey Wauted" had to be taken down. More cash had actually come in than was needed.

At the close of 1913 the memhers had $49,000 ou deposit with the association, at 8 per cent iuterest aud payable on deuiaud.

Estimates are somewhat vague, but it is probahle that the valley's berry area does not exceed 3,000 acres, and there are approximately 1,800 growers; yet fully 60 per cent of these growers derive their entire income from berries and chickens.

In the red raspberry zone the acre farm might almost be called the standard, and several hundred growers produce commercial crops on plots varying in size from four city lots to three quarters of an acre. The Nabob of the valley is a man who owns 22 acres in bearing berry vines, and a close competitor is a veteran of the Boer War who owns 21 acres. The mau who owns five acres set out to berries is spoken of as a well-to-do farmer, and he with a ten-acre patch is looked upon as a person of cousiderable cousequence.

We Need Not Lose

By WM. JOHNSON

WHY is it that so many of us, who prosper by small things, if we prosper at all, ignore so many of them to our great loss?

Seeds, soil, grains, raindrops, hacteria, tiny rootlets—these are the things with which we deal. They fill our mows and bins and purses.

The commonest remark one hears on the farm is this: "I could farm all right if I had the money. Give me a little capital and I'd soon be doing as well as the best of them." Perhaps. Bnt it seems to me that in making this statement a significant fact is ignored—that some of the most successful farmers began with the least capital, while some who made a flat failure had plenty of it. I can't recall a better illustratiou of this truth than is offered by the change of ownership of a farm in my neighborhood.

The first owner was a strong, hard-working young fellow who was supplied with plenty of capital, at low interest, by his father. This young fellow would work eighteen honrs a day if necessary to get his crops sown in time, or his grain or hay under cover. But right there was his weak poiut. His mind was set on the big things and he ignored a lot of little thiugs that have a way of growing into serious losses when neglected.

He left the occasional weed patches to spread over the fields until summer fallowing, and the loss of a crop was necessary to get rid of them. He neglected weak spots in the fences until the cattle got into the grain and worked a lot of damage. He lost two or three horses from pure carelessness or, rather, oversight—he was too industrions to be called careless. He lost his barn from neglect to put good lightning rods on it, and got no insurance because he had let the policy expire. Eventually he ran so far behind that he had to sell the farm.

A quiet, careful sort of a chap, who was about as robust-looking as a windflower, bought the place—mostly on time. How this man made out to pull throngh the first few years was a mystery to a good many. But he did, and by degrees built up a profitable farm business, which is now, some fonrteen years later, entirely free of debt. He had precious little money those first years, but a good garden, hogs for the home meat supply, chickens, and a cow snpplied most of the living.

From his first day on the farm he got after the little things, which, like seeds in rich soil, grow into gains or losses according as they are looked after or neglected. He would patch weak spots in the fences, mow a patch of weeds, work in the garden, or fix up around the house and barn, whenever he had a few spare minutes. He kept an ax in the field, and chopped out stumps while the horses took occasional rests. In this way he cleared some forty acres of scattering stumps in four or five years.

He planted a patch of small fruit for home supply, and sold a considerable surplus to folks in town, and even to neighhors who should have grown their own. He planted an acre or two of beans every year which the two little boys took care of, and which mnch more thau bonght their school clothes and books. He planned his farming so as practically to dispense with hired help and to give him more time for preparing the land and harvesting the crops. He bought three or four sheep, and some good heifer calves from folks in town who kept good cows and wanted to get rid of the calves as soon as possible. He soon had a nice herd of sheep, and another of cows. He bnilt up a fine flock of poultry that brought in nice returns.

Feuces were rearranged so that time was saved in workiug the fields; the barnyards were laid out more conveniently; mice and rats were trapped off; machinery and implements repaired on rainy days; concrete water troughs, walks, posts, and the like made; and a hundred and one other little things looked after.

But the biggest little thing he did was to huy seed for a quarter-acre patch of alfalfa, and send to the state experiment station for soil with which to inoculate the land. His neighbors told him that alfalfa wouldn't grow in that locality—they had tried it. But they hadn't tried the right way. This man studied farm papers and bulletins, and his quarter acre of alfalfa grew to an acre, to five acres, to ten, and now he has sixty acres of as fine alfalfa as one would wish to see.

After a while he bonght a gasoline engine to do the chores that had before taken much valuable time. Later a hot and cold water system was installed, and extended to every building on the farm. It saved more time, and added to the profit from the live stock besides. By degrees he got every labor-saving machine for which he had need.

What He Said About It

To quote his own words: "I got most of them by saving the money lost on most farms hy a lot of little neglects. And each one helped me to save more money, or gave me more time in which to earn more money. For instance, by taking better care of the manure I made enough more on the crops so I could buy a manure spreader, and I got enough better results from the two sources to enable me to put up a silo and get better results from my corn crop and from my stock.

"When you start improving it keeps on spreading to other things, and it's just the same way with neglect.

"One of my neighbors told me that a cream separator didn't pay, and that he couldn't afford one anyhow. Well, he had the same uumber of cows at the time that I had, and about the same kind. I made enough by taking better care of my cows and calves to buy a separator. Then, with fresh, warm milk for the calves and pigs, aud more income from the butter, I could soon afford a gasoline engine to grind and cut feed, pump water, and so on. That's the way a good thing grows if you nurse it aloug."

This is enough to give the idea. On the same farm one man with money failed because he ignored the little thiugs, and another succeeded because he attended to them and developed them into profitable big things. That's the point I want to make—that little things dou't stay little.

Take care of the little things and the big things will take care of themselves, because big things are only collections of little things. But perhaps we had better say, "and the big things will take care of you."

What "Farm and Fireside" Means

THOUSANDS of farmers have taken Farm and Fireside for more than a score of years, tens of thousands for a decade or more, and hundreds of thousands for shorter periods of time. There cannot be much doubt in the minds of these people what "Farm and Fireside" really means, but to the thousands of new readers who are joining the Farm and Fireside family month by month, the real, the inner meaning of our name may not yet be clear.

It is our object to make Farm and Fireside serve the American farmer and his family in all departments of their lives: to give help and advice for the heads of the house in their "Farm" hours, and recreation and inspiration for their "Fireside" hours. In the same way we strive to entertain and interest the children. Everything that plays a legitimate part in the life of the farmer and his family, their work, their thought, their pleasure, falls within the scope of Farm and Fireside.

Our old readers have helped us edit Farm and Fireside for years by their interest, their letters, and their criticism. We want the help of our new readers as well. Will you give it?

Heredity at Work

By MARK SABIN

ALL the dairy-cattle clubs keep records of animals that have come up to certain standards of production. These records are known as the "advanced register," and require painstakiug work. When a huyer is consideriug the purchase of any animal on the advanced register, he should remember that he is paying not only for the animal itself but for the records as well. The Guernsey Cattle Club, for instance, requires that:

"Every change of ownership must be recorded upon the records of the club.

"Transfer cannot be made to any other person than the actual purchaser."

There are still other requirements which make it possible for anyone to know the complete history of a cow or hull and of its ancestors in case they were registered animals. Because of all these safeguards, an animal sold as a Guernsey always means a pure-bred animal. In discussing the ethics of the pedigreed cattle trade, Mr. W. R. Goodwin, a Guernsey enthusiast, says:

"Now what of a mau who will advertise Guernsey bull calves for sale and, when bought on no further representation, will say, when pedigrees are demanded, that he did not represent them as pure-breds, as they are, in fact, grade Guernseys?

"It wonld unimpeachably be proved that there is but one meaning, rightly and commonly, to the name Gucrnsey, and that is a pure-bred representative of that breed." What is true of the Gnernsey is true of any breed.

The laws of heredity are now so well established that an experieuced breeder can tell with amazing accuracy the color, conformation, and approximate value of a calf, colt, or other animal before it is born, provided he knows the full history of the parents. For this knowledge we are indehted to Gregor Mendel, an Austrian monk, who had formerly been a peasant boy. Mendel became interested in raising peas in his cloister garden. They were just garden peas—some tall, some dwarf. If the pea plant is left to itself it bears peas just like the parent pea.

Mendel wondered what would happen if he took some pollen from a flower of a tall pea vine and put it into the flower of a dwarf pea. He did this, saved the seed, and planted it. No, he did not get a mixed lot of plants. He was surprised to find that they were all tall, just like the original tall pea from which he took the pollen. But in spite of this he couldn't believe that the characteristics of the dwarf pea had disappeared entirely. So he planted the peas obtaiued from the first hybrid crop. This is where the results get interesting. Three fourths of the peas from this planting were tall, and one fourth dwarf.

He went still further, and planted the seed from these plants with the result that one quarter of the seeds gave all tall plants, oue half of the seeds gave plauts three fourths of which were tall, and one fourth dwarf; and all of the dwarf peas last meutioned grew into dwarf plants. In the three generations following the first cross between the tall aud dwarf peas, there were exactly twice as mauy tall peas as dwarfs.

To all appearauces the tall peas from the first cross were just like the tall parent pea. But, as Mendel suspected, this is uot so. They may look the same, hut are not the same. The tall parent pea was a pure breed, while the offspring was a mixed breed, even though it looked like a pure breed. And just as you see that the offspring from this mixture were not all the same, so it is important in breeding operations to know whether you really have a pure-bred stock to breed from, or just something that looks like pure-bred stock.

If you have pure-bred animals or plants, they will breed true; but if you have mixed pareut stock, you will get all kinds of snrprises, or "out-croppings" as they are called. Most breeders kuow these facts, and recognize that the only way to be sure of the characteristics of live stock is to register all stock that is known to be pure-bred.

E-W

Farm Boys in Baseball

Who Have "Made Good" in the Big Leagues, and Why

By HUGH S. FULLERTON

MR. FULLERTON has played ball. He knows the game. He has played in the big leagues, and so knows most of the players. Since he has left the baseball diamond he has been writing for the papers, and in that way has kept closely in touch with baseball of to-day. He is probably the best-known writer on baseball and general sports in America. This article is the first of three on the subject of Baseball and Farm Life. Mr. Fullerton will point out to us how closely related they are.

THE other day I inquired of a major-league manager what class of young men he wanted for his team.

"Give me the farmer," he replied instantly. "The chances for his falling victim to the temptations of baseball are fewer. He may not be as well posted as to city ways, but in one season you cannot tell the difference. They come larger, stronger, live cleaner, and think more clearly than city boys do. Besides, the majority of them have the right idea in view. They want to get money enough to buy a farm and retire to it, and a ball player working with a definite object in view is the best ball player."

Twenty, yes, ten years ago the major-league baseball teams were recruited almost entirely from the larger cities. Cincinnati led in production for years, then Boston, then St. Louis. A dozen years ago 50 per cent of the major-league players hailed from New England and from the Atlantic States. Now more than 60 per cent of all major-league players come from farms or from small villages, and the farms produce a greater number of good players than come from any other place.

Traveling with a major-league club in summer, idling in a special car with two dozen handsomely dressed, well-groomed, quiet fellows one is surprised to listen to their conversation. After baseball and the latest sporting gossip becomes a bore, the conversation turns again and again to farms and farming. I have heard men drawing $10,000 a year long for the farm and express envy of the men working in the fields. On any major-league club one can get an argument on the latest thing in soil culture, on silo mixtures, on fruit spraying, or cattle feeding.

"Rube" Waddell, "Rube" Marquard, "Rube" Ellis, "Rube" Benton—a score of "Rubes" have shone in major-league baseball, and their nickname once was one of ridicule. Not now. Managers of major-league baseball teams are looking for "Rubes," and when they say "Rube" they mean, not the uncouth or the awkward recruit, but the clean-cut, clean-living boy from the farm.

The List of Farm Boys

Glance at a partial list of the "Rubes" who have made their names household words through playing baseball. "Cap" Anson was a farmer boy, and worked on the farm near Marshalltown, Iowa. "Buck" Ewing, the greatest of all catchers, was raised on a farm near Westboro, Ohio. Ty Cobb confesses that he worked on a plantation in Georgia before he became the greatest of all. "Cy" Young, the wonderful old pitcher, was a farmer always. He came from a farm near Cleveland, added to it during his twenty years of pitching, and went back to it. Del Howard, of the old Chicago Cubs, was a farmer from Kenney, Illinois, and transplanted himself to Jacksonville, Oregon. Jake Daubert, the Brooklyn first baseman, king of the National League batters, was a farm boy in Pennsylvania, as was Jimmy Sheckard, the famous veteran. George Mullin, Detroit's great pitcher, was an Indiana farm boy, and still owns his lands near Wauwatosa. Fielder Jones always has been in Oregon apples and alfalfa. Frank Chance worked in his father's prune orchards and raisin vineyards at Fresno, California, as a boy, and went into orange-raising as a player. Carl Lundgren, once the leader of the Chicago Cub pitchers, came from a farm in Illinois, and went back to it. Jack Pfiester, the famous left-hander, and George Stallings of the Boston Braves are and were farmers. Jimmy Slagle, "The Rabbit," raised and milled buckwheat. Ham Hyatt planted corn on Hominy Creek in North Carolina. Clark Griffith came from a farm in Illinois and worked on a ranch in Montana. Miller Huggins, Ward Miller, Chick Fraser, Clyde Milan, Larry Wheat of Brooklyn, Larry Gardner of the Boston Red Sox, Joe Jackson, the great Cleveland slugger, Sam Crawford, Vic Saier of the Chicago Cubs, Ducky Holmes, the veteran of a dozen clubs, Artie Phelan, "Red" Killifer, Fred Clarke, manager of Pittsburgh Pirates, Jim Thorpe, the greatest athlete of the modern world, Claude Hendrix, the pitcher who jumped from Pittsburgh to the Chicago Federals, and the great Walter Johnson, all worked on farms and laid the foundations of their strength and speed in farm work.

PHOTO BY INTERNATIONAL NEWS SERVICE

"Rube" Benton. And he's proud to be called Rube

Scores of others either were born on farms or worked on them as boys, and every season sees their numbers in the big leagues increased.

The majority of the country boys who reach the major leagues do so through the colleges where their natural strength and agility is developed by systematic training in athletics, but we have some who come direct from the farm into baseball, getting their little experience in the game usually with village or small-town teams. It is odd that practically all the "freaks"—as we refer to players who "make good right off the reel" because of great natural ability—are country born and raised boys. Mathewson of course got some training at college, but he was quite as great a pitcher when he went to college as when he joined the New York Giants. Joe Jackson, a lanky "Hillite" from Georgia, Fred Toney, the Tennessee Giant, Sam Leever, who was a farmer and country schoolmaster, "Sam" Thompson, a farmer, who also was a carpenter, are examples of fellows who were such great natural ball players that they needed little training.

Does It Pay to Leave the Farm?

One of the subjects we hear discussed among players for years is whether or not it pays a young man to quit the farm and play baseball. It is rather a hard question, since so much depends upon the man himself. If a country boy possesses strength, speed of foot, natural ability, and loves the game for itself, if he determines to make it his business and to attend to that business as he would to the farm work, to save his money, and to return to the farm after his baseball career is over, then I would advise him to go into professional baseball as quickly as he can get the opportunity. If he looks upon baseball as a joy ride, if he is likely to fall victim to the constant temptations, if he is liable to be spoiled by flattery or applause, then he should throw the ball under the barn and return to the plow.

The boy should look upon baseball exactly as he considers whether to try for a job in town or stay on the farm. For a level-headed, sensible youth baseball offers a big opportunity for earning money enough in a short time to buy a farm of his own. There usually is little danger that he will not return to the farm. Ten years "on the road," an endless succession of sleeping-cars, hotels, crowds, false life in cities, false admirers, false values, will make the average young man long for the farm. Toward the end of a hard season I have heard men so homesick for the quiet and peace of the farm that they were objects of pity. If the boy is weak and succumbs to the white lights, the chorus girls, the cheap "sport" admirers that flock around popular ball players, he will be ruined for usefulness, either on or off the farm.

The average career of the modern baseball player is about eight years, usually two in the minor leagues, four in the majors, and two more in the minors. The wiser one never goes back to the minors, but has saved enough during the big earning years to return home with sufficient funds to establish himself substantially on his own acres. The salaries start at from $1,200 to $1,500 per season, and rise gradually to an average of about $4,500 in the fifth year. It remains about that figure, unless the player has been improvident or unfortunate. Just now salaries are greatly inflated.

In spite of heavy expenses, a player at an average salary ought to save 70 per cent of his salary during the summer.

It seems to me that in the matter of choosing friends lies the entire secret of the success of the baseball player, both in baseball and in after life. The farm boy who, progressing through the village team to the small league, reaches the major leagues becomes a semi-public character. Men and boys of all sorts seek his acquaintance. Almost all of them desire to entertain him, usually to buy drinks and to flatter him, to introduce him to their own friends, who also will flatter and buy drinks. If he chooses those associates he shortens his career in baseball; he renders economy of living impossible, and puts prosperity out of the range of probabilities.

Baseball Works Toward Temperance

About 65 per cent of all major-league baseball players drink. The percentage seems abnormal, perhaps, to outsiders, but to us who live the game it is encouraging. Twenty years ago perhaps 95 per cent of all major-league players drank. The entire tendency of the game today is toward temperance.

I know of no better university course for a young man than four years with a major-league baseball club. If he pays attention, listens well, and cultivates the really well-informed persons he will meet, he will be well grounded in business and financial matters. In New York he will hear of stocks and bonds and big business; in Washington he will get glimpses of the political life of the nation and hear much of that; in every city he will learn something of value.

There is much time for study, much recreation, many opportunities to visit places of interest, and, in addition, there are five months in which the farm boy may return to the farm and apply what he has learned. We have had at least three players who spent the winters of several years in agricultural colleges.

It is a mistake to think that major-league baseball players are especially endowed with physical gifts. Any healthy, normal boy who can run rapidly, throw freely, whose eyesight is keen and clear, and who is willing to work as hard, to study his business as carefully as he would any other business, can become better than the average major-league player by application and determined effort. He should not expect immediate success, however, any more than he would expect it in the legal profession, although there is a hundred times that chance in baseball.

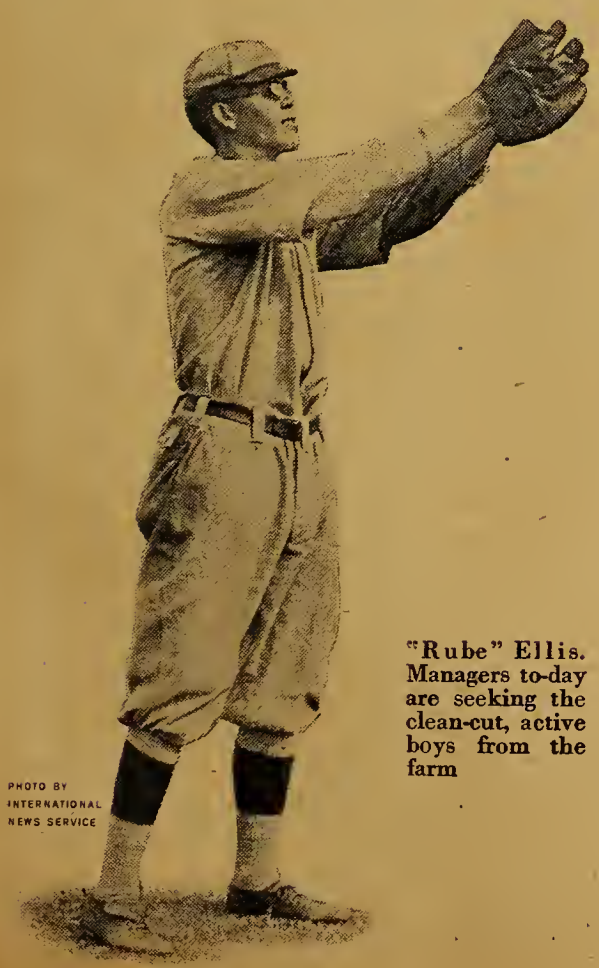
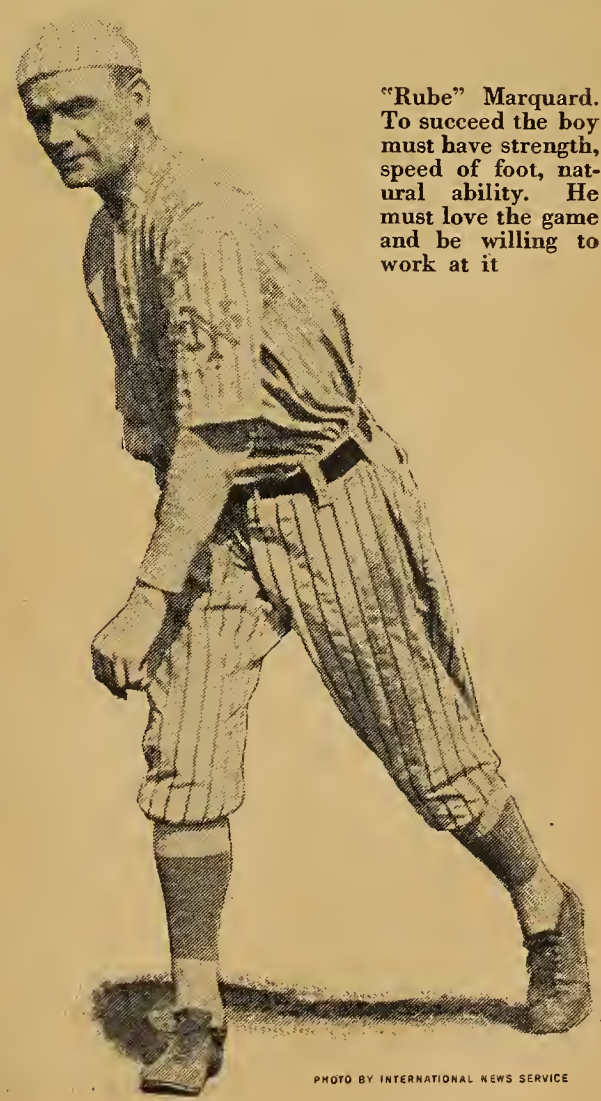


PHOTO BY INTERNATIONAL NEWS SERVICE

"Rube" Ellis. Managers to-day are seeking the clean-cut, active boys from the farm



"Rube" Marquard. To succeed the boy must have strength, speed of foot, natural ability. He must love the game and be willing to work at it

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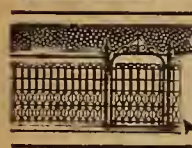

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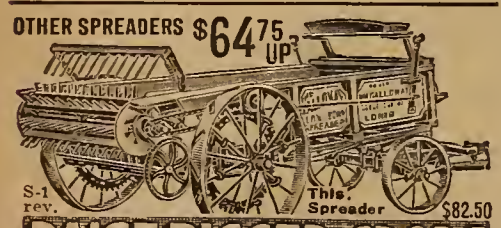

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R. K. Foust, Ashley, Ohio, writes: "Please find draft for spreader received October 5th. Assure you I am more than pleased with same. It has proven all you claim and more. By buying of your company, I saved $21.80 and got just what I was looking after."

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What's in Paint?

Why the Label May Not Tell the Truth

SOME months ago FARM AND FIRESIDE published an article on paint which enumerated instances of mislabeling and also certain cheapening ingredients such as water and benzine found in some commercial paints. The article also upheld the views of Doctor Ladd, North Dakota's pure-paint expert, who believes that the label should tell what ingredients ready-mixed paints are made from and in what proportion they are used.

These views are attacked by George B. Heckel, secretary of the Paint Manufacturers' Association of the United States. Paint users will be interested in the attitude of a manufacturers' representative in these matters. Mr. Heckel writes:

First, as to "inferior materials," it must be established in advance what these inferior materials are, and the public must be educated to recognize them when they see them.

I freely assert that paint made of 60 per cent of zinc and 40 per cent of barytes has, in the averages, given better protective value for a longer time, and consequently at a lower annual cost, than any single "pure" white pigment, on the average; yet barytes is certainly one of the "inferior materials" in Doctor Ladd's category.

As for the liquids: water in excess of 5 per cent is objectionable, yet some pigments of good painting value will show more on analysis. Besides, water is never used in those products to which manufacturers attach their own names. Water appears in the cheaper products used, largely because of their price, on cheap contract work done by painters, and in some paints sold direct to consumers in the original packages.

Benzine, another liquid commonly classed as "inferior," may be good or bad according to circumstances. For ordinary exterior work I would as willingly have the painter use a heavy gravity benzine as turpentine. I am personally acquainted with Professor Ladd, whose purposes and work I admire.

My objection to the formula law which he advocates is that it sets up a false and misleading standard, and that it cannot be impartially and effectively enforced, except under the interested and expert supervision which he devotes to it.

My contention is that abuse is not prevalent in the paint trade, that competition tends to eliminate such abuses as have existed, and that the public will ultimately suffer injury rather than receive benefit from the formula law.

Practically all manufacturers produce a grade of paint which is the best their knowledge and skill enable them to formulate. Such paints are sold without understanding, agreement, or connivance everywhere at about the same price. The manufacturers place all their advertising energy and selling skill behind such produce, and their own names upon the package. Competition in these is on quality alone, and not on price.

With the formula fixed and a large investment in labels, what argument would there be left except the argument of price; and what incentive to improvements every one of which means a heavy loss in old labels and a heavy expense in new?

There is some fraud and some abuse in the paint trade,—it would be a phenomenal trade that did not have them,—but not so much by 75 per cent as when I first became acquainted with the trade, and not nearly enough to warrant or justify the drastic regulation proposed.

Any paint consumer to-day can go into practically any paint store and buy paint that is honest, of high protective value, and durable in color, if he sticks to high-class goods bearing the name of a legitimate and responsible manufacturer. As soon, however, as he begins to ask for "something cheaper" he is venturing on uncharted seas; but if the formula were on the can his risk would still be greater, since, with the formula on them, they would be the cheapest that could be produced under the formula.

It is a fact that the manufacturer makes less money on poorer paints than on his best grade, because the competition with them is largely price rather than quality.

For a real, gilt-edge chance to deceive the public, a clever manufacturer could ask for nothing better than the certificate of quality conferred by the formula label.

Paint manufacturers are unanimous among themselves that it is ineffective as a protection to the consumer, burdensome, expensive, and hampering to improvement as a regulation for the manufacturer.

Your Narrowest Escape

Another Contest

NEARLY everyone has had a narrow escape from a train, runaway, unruly bull, or piece of machinery. Tell us about your narrowest escape of all, from whatever source, and how you managed to come out of it alive.

Five dollars will be paid for the best letter on the subject and one dollar for all others used. Give all the details as exactly as you can remember, because these experiences will be valuable to others as a reminder of "Safety First." Mail your letters so they will reach the Contest Editor, FARM AND FIRESIDE, Springfield, Ohio, by May 10th.

Farm Notes

When Mosquitoes Bother

AT RAVINIA PARK, Illinois, an enterprising newspaper management placed containers of a mosquito repellent to be used by the visitors, who were greatly annoyed by the insects. The preparation consisted of one ounce of citronelle, one ounce spirits of camphor, one ounce oil of cedar. It is stated that the mixture will not injure the skin, upon which it is to be used as a lotion when in the mosquito district.

Houston Says So

DAVID F. HOUSTON, Secretary of Agriculture, says: "As the result of long observation as well as of careful survey, the Department recently concluded that aside from the conveying of information by competent persons, directly to the farmers on their farms, the most efficient method for reaching the farmers was the agricultural press."

A Sermon in Roads

ONCE in a while in traveling about the country we find a stretch of finely dragged road running from one man's farm gate to the next going toward town.

This is a certificate of character to the man who lives where the good road starts. He has made a King drag. He drags that stretch of road whenever it has rained.

Such a bit of road is a sermon. "Come unto me," it says, "all ye who are bruised and bogged down and mud-bespattered, and I will give you rest."

The sermon stirs every man who does not drag his road to a conviction of sin. He wishes his road were dragged too. And after a while he gets a King drag and begins. Soon there are more good patches along that road, and after a while the man who fails to drag might as well stick up a sign in front of his farm reading, "This farm belongs to a back-number."

I Burned My Thistles

By William Shaw

I KILLED the Canada thistles in my meadowland by burning the brush that had been trimmed from some apple trees. About the 10th of June I put the brush on the thistles and burned it. The next day I went over the burned ground with a spike-tooth harrow, then I sowed grass seed and rolled it down. I had no more trouble with the thistles.

WHEN the final collection for Billy Sunday, the evangelist, was taken up in Philadelphia, March 14th, it took ten large waste-paper baskets to hold the money. More than it took for the loaves and fishes distributed by the first great Evangelist.

Lost People

MR. THOMAS DUNCAN of Virginia or West Virginia is a lost person to Mrs. Bessie Duncan, who is anxious to know his address.

JOHN P. FRISK, last heard from January 22, 1912, at Portland, Oregon, is a lost brother to his sister, Mrs. Claus Engstom of Michigan. He served three years in the army, Company F, 6th Infantry North Dakota. His mother is living and awaits his return. Any information as to his whereabouts will be appreciated. Send it to FARM AND FIRESIDE.

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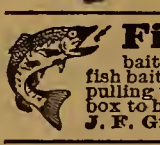

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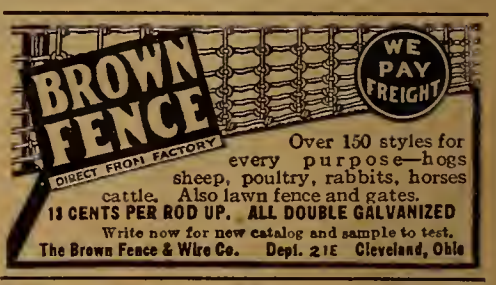

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If You Like to Fish

By S. H. Franklin

IN CASE you live near a river or stream provide yourself with a minnow box. We made one last summer at our camp. It was made out of a grocery box.

We set it in the edge of the water where it was not very deep. We had made small holes along two sides of the box so that the fresh water was always flowing through it, and this kept the fish alive and healthy.

A 2x3-foot size is convenient. If too large a box is chosen it is hard to catch the minnows again after they have been put into it. Make three little windows in the two long sides of the box by sawing out 3x6-inch holes, and tacking screen wire over the openings. The top may be made either the size of the whole box and hinged on with leather hinges, or a 9x14-inch hole may be sawed out of the top and a lid fitted upon it. The smaller door has the advantage of leaving an edge around the box upon which to stand when getting out the minnows. There must of course be a solid bottom to the box, or else a screen wire.

Place the box where the water is about a foot and a half deep, so that the top stands a few inches out of the water. Then secure it by driving down four stakes, one at each corner. Then wire the box to these so that it will remain firm.

Way to be Happy

By John Coleman

DOES the boy want to leave the farm? Well, whose fault is that?

Has he been useful? Has he ever been told that he is useful?

Has he an interest in the farming? Does he own any live stock? Does his father help the boy as cheerfully as he expects the boy to help him?

To be sure, when I was a boy I had to work hard and didn't expect any pay for it. I was expected to obey my parents. I was up in the morning to build the fires, and it was my frost-bitten fingers that unlocked the barn door at daybreak.

But that was a long time ago. In those days there wasn't a town every few miles with moving-picture shows, street cars, and tempting jobs which pay real money. Things have changed. Anyhow, what is all this work of life done for? For the children. Well, then, why not take the children into partnership?

Our Concrete Silos

By W. E. Morton

IN NORTHERN Wisconsin, where good gravel can be had for the hauling, many concrete silos have been built during the last three years, especially in Dunn and Marinette counties, where forms for the work have been furnished by the county schools of agriculture. Such little assistance as was necessary

Cash cost of this 14x35-foot concrete silo

Cement (40 bbls.)	$64.00
Labor	40.00
Reinforcement	10.00
Gravel	2.00
Roof, complete cost	40.00
Total	$156.00

in starting the work at each farm was given by a member of the faculties of these schools.

The farmers clubbed together so the dealer could order the cement for them in carload lots, thus getting a price that placed the cost of cement for a 100-ton silo at about $50. The necessary reinforcement was usually obtained for less than $10, so that with the additional items for lumber and incidentals the actual cash outlay for material has been in many cases less than $75. This left the cost of labor as the only remaining item of importance. It averaged about $40.

One Marinette County farmer, whose sons did all the work of building, erected a 12-foot silo 24 feet high at a cash outlay of $70. Several others who built 12-foot silos 30 feet high put less than $100 in cash into them. The average total cost of all the 100-ton silos was about $150. So far as is known every one of these silos is giving excellent satisfaction.

They are made from a 5-to-1 mixture of bank gravel and cement, with a 6-inch solid wall, reinforced with wire hoops and with vertical rods by the doors. The wall grows harder each year, and the only care it needs is to be whitewashed inside and out every two years with a creamy mixture of cement and water.

The farmers of any community can do for themselves what the agricultural schools have been doing in Wisconsin. A good form can be constructed by any man handy with tools, with the exception, perhaps, of a few parts which need to be made by a blacksmith. The cost of the forms need not exceed $50, and this amount, when shared by several, means but a small sum for each.

Cash cost of this 12x30-foot concrete silo

Cement (33 bbls.)	$56.10
Labor	30.00
Reinforcement	4.50
Shingles for roof	3.30
Total	$93.90

The Bees On My Farm

By O. J. Jones

MY FIRST real interest in the honey bee began when a boy.

At that time my father purchased at a public sale and brought home a colony of bees in an American hive—which at this time was in quite general use, although long after the Langstroth hive had been put on the market.

With a boy's curiosity I fooled around that hive until I had a "feeling" and "visible evidence" that there were bees there, and more than that, they were at home and on the job.

During the next few years they increased rapidly and yielded good crops of honey, and as I watched them and noted their habits of industry and thrift, I learned to love them and loved to work with them, and rarely ever did I get a sting during those years.

In my present location I secured from a friend a fine colony of Italian bees July 22, 1908, after the honey flow in this locality. Contrary to all orthodox teachings, I secured an extra queen and divided this colony, although they had cast a swarm only a few days before I got them.

I gave them five frames of comb fairly well filled with brood and honey.

I fed each colony for a few weeks each evening half a pint of thin sugar syrup. I was rewarded by seeing both hives built up and well filled with brood and honey by the last of September. Both colonies wintered well, and came out in good shape in the spring.

This was my first year of honey harvest. In one year from the time I secured the first colony I had produced 350 pounds of fancy comb honey which, sold at 20 cents a pound, brought $70, and I had seven colonies of bees in good shape for the fall and winter. Increase, five colonies at $7 each equals $35. Total income for the year, $105. Taking from this $3 for queens, $19.25 for seven hives, $5 for foundation, $5 for sections, and $1 for sugar, makes a total outlay of $33.25, leaving a profit of $71.75.

In the spring of 1910 I came out with six good colonies, losing one on account of winter packing getting damp. I closed this season with 875 pounds of fancy comb honey which, at 20 cents a pound, brought $175, and I increased my hives by six. My profit was $140 not considering the six colonies.

The following winter I lost two colonies in experimenting with packing and winter cases. I closed the season with 30 colonies and a profit of $75.50.

The following winter was very cold and I lost three colonies, sold four more, and started in the season of 1912 with 23, some of them in a weakened condition. I netted $374.40 during the season.

The season of 1913, after losing one colony and selling two, I started in with 32 colonies, closed the season with 3,000 pounds of fancy comb honey. In 1914 I began without the loss of any, and I purchased enough to make 112 colonies, but this was a bad year for clover, and so the crop of honey was light.

In each year's account I charged the new hives, deducting the amount from the profits. This should not be so, as hives are a permanent part of the apiary and will last twenty-five years with reasonable care. With this amount not deducted the profits would be much greater.

In Rainy Weather

IF IT rains for several days you do not stay in the house or in bed all the time, do you?

Certainly not: you have work to do. But if you had to stay in it would be bad for you.

It's just the same with the work teams. They need exercise in order to begin, when the weather clears, properly rested.

A pasture is the best place for them if it is not actually raining, and exercise in box stalls or under a covered shed in the barnyard will be almost as good. Let them stretch their legs and roll. It's pretty tough to be kept in a cell whenever you aren't at hard labor. Convicts and work horses are about the only living beings which are so treated.

WATER TOWER $49 COMPLETE OUTFIT

Tank absolutely guaranteed for 5 years. Wonderful bargains at $49 cash (or on credit at slight advance in price.) Outfit includes 500 Gallon Cypress Tank and 20 ft. steel tower. Others as low in proportion. Get catalog of complete Water Works Equipment Ask for special proposition No. 72.

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The people of European countries as well as the American continent must be fed—thus an even greater demand for Canadian Wheat will keep up the price. Any farmer who can buy land at $15.00 to $30.00 per acre—get a dollar for wheat and raise 20 to 45 bushels to the acre is bound to make money—that's what you can expect in Western Canada. Wonderful yields also of **Oats, Barley and Flax. Mixed Farming** is fully as profitable an industry as grain raising. The excellent grasses full of nutrition, are the only food required either for beef or dairy purposes. Good schools, markets convenient, climate excellent. Military service is not compulsory in Canada but there is an unusual demand for farm labor to replace the many young men who have volunteered for service in the war. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

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Don't Stop The Grain Feed

When Cows Are Turned Out to Pasture

Stopping the dairy cow's grain feed just as soon as the pasture season arrives is bad for the cow and false economy for the owner. The abrupt change from one feed to the other is more or less harmful to the cow. The logical step is to gradually decrease the grain feed but not stop it entirely. Even when pasture is at its best, a small grain ration can be profitably fed. Grass alone, while rich in protein, does not contain enough strength building elements. That's why so many successful money-making dairy farmers continue feeding

CLOVER LEAF DAIRY FEED

all through the Spring and Summer, as well as Fall and Winter. Put your cows on a ration of 3 or 4 pounds of Clover Leaf Dairy Feed while on pasture. It will pay you and pay you well. Use Clover Leaf in place of bran or other feed you now use. Dollar per dollar of cost, Clover Leaf gives you more **feed value** for your money than any other dairy feed you can buy. A fair trial will convince you of this just as it has convinced thousands of others.

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FARM AND FIRESIDE

THE NATIONAL FARM PAPER

Published every other Saturday by
The Crowell Publishing Company, Springfield, Ohio

YOU'RE on the jury. Ever realize how many decisions of different kinds you make even in a day? And we know you like fair play.

So when you see any opinion advanced or statement made in FARM AND FIRESIDE that seems to you unfair or biased, speak up and say "Fair Play!" This issue, and every other issue, is open to criticism or approval in more than half a million homes besides your own. It's so easy to condemn on appearances. Give us your views and reasons on the other side if you think only one side has been given. Even if you have only something nice to say, send it along.

HERBERT QUICK. - - - - - Editor

April 24, 1915

Guncotton and Wheat

A FEW years ago an American inventor worked out a plan by which 500 pounds or more of guncotton can be enclosed in a steel shell and fired from a cannon with safety to the cannon and the men working it.

Since that time other engineers have built cannon with bores of from 12 to 17 inches, capable of firing these torpedo projectiles from 12 to 20 miles.

These weapons may batter the price of wheat down to a level which we have not anticipated. So closely are all inventions and discoveries linked together.

These cannon are now in use by France and Great Britain in forcing their way through the Dardanelles, the Sea of Marmora, and the Bosphorus. If they succeed they will open a waterway from the Black Sea to the markets of the world. This will let out the wheat of Russia. Russia has from 125,000,000 to 175,000,000 bushels of last year's crop still unsold, and shut up by the Turkish forts. She also has about her usual crop in the ground. Tempted by the high prices, all the other wheat-growing regions have sown a large acreage.

If the war ends in the fall it looks as if the world would have plenty—a great plenty—of wheat. A situation well worth considering.

Are Song Birds Scarce?

IT SEEMS to the writer that the robins, the wrens, thrushes, catbirds, meadow larks, bobolinks, blackbirds, doves, orioles, vireos, woodpeckers of all kinds, cuckoos, swallows, and in fact most of our song birds, are growing scarcer over much of the country year by year.

A recent bird census was taken by the Department of Agriculture for the purpose of finding out in a broad way how many birds we have, but a census of this sort is in the nature of things only a little better than a guess.

One man's guess is about as good as another's, and the estimate of the man who is out of doors and observes the birds year by year is better than any single census can be for the reason that he can compare present impressions with those of years ago.

What do our older readers think of this matter?

Are the birds growing scarcer?

Are any of them save the English sparrows, increasing, and, if so, which ones?

Good Humor in Business

BUSINESS is a matter of judgment. When enmity comes in at the door, judgment flies out at the window.

Any business which is worth doing, benefits both parties. Commerce is the greatest of all civilizing agencies because people must be friends if they are to do business together, and friendship makes for peace.

In many parts of the country the boards of trade of the cities and towns are inviting the farmers to become members. This is a good thing for both farmers and the business men who are not farmers.

But why should we wait for towns to give us the benefit of boards of trade activities? Why not organize farmers' boards of trade? Such boards would work on marketing problems, freight problems, and other rural business matters. These are quite as important as the business problems of the towns, and need as careful management. Incidentally, they could co-operate with the town organizations for the smoothing out of the friction which must occasionally occur between the producer and the consumer, and the middleman sandwiched in between the two.

There is a good deal of misunderstanding between rural and town business committees. There is ignorance on each side of the problems of the other.

The best thing which could happen for almost any neighborhood would be a careful study by the farmers of the business of retailers and commission merchants, and by city and town business men of the problems of the farmers. Such an exchange of views would finally show each side how better to serve the other. And any business which is not based on mutual service should be changed or abandoned.

As a matter of fact, there is mutual service in all business which has lasted long. That is why it has lasted.

How Grain is Bound

A MILLION or so of Yucatan Indians swelter through the season cultivating the henequen plant, and millions of bales of sisal fiber are the result.

In the United States great twine mills await the shipment of the sisal so that they may make it into twine for the coming harvest.

Other great factories are turning out harvesting machines with which to reap the grain, and still others are building little engines which will run the binding and cutting machinery while the horses draw the binder along the hem of the wheat.

In Europe, millions of soldiers await the wheat that they may have bread, and other millions of peaceful people look to the waving grain for wherewithal to satisfy their hunger.

A Mexican general orders the port of Progreso closed, and the whole chain of supply snaps. No open port, no sisal; no sisal, no binding twine; no twine, no harvest—for now grain is bound by Mexican peons, ship owners, sailors, factories, and farmers, all working together like the fingers of two hands.

The President speaks to General Carranza and tells him that if the port of Progreso is not opened peacefully the cruiser Des Moines will open it by force. Carranza backs down, and the sisal starts for the mills.

A fine illustration of the relations of government to business, and of commerce and agriculture, and of the desirability of world-wide peace.

Our Logged-Off Lands

OUR grandfathers could do no better than to spend half a lifetime in clearing a 40-acre farm. We can—and unless the States or the nation do the work of making a start for every settler on the logged-off lands they will not be settled for another hundred years.

There are 200,000,000 acres of these lands, capable of making good homes for the enterprising and industrious. They are left unsettled because farmers are too enterprising and industrious to go upon them.

The family moving to the logged-off lands of Michigan, Wisconsin, Minnesota, the Pacific Northwest, or the South, wants a piece of land already ready for the crop on which they may make a living. It should be provided with a cottage, a well, a suitable barn, and some fencing. These would give the settler a toe hold, and these lands now waste would settle up like magic.

Public expenditures of this sort, repayable by the settler, would soon alter the center of population of the United States.

The Corn Planter

IT SHOULD be all ready to start now. Does it drop the same number of kernels every time? It should pretty nearly do so. The yield next fall requires it.

Does it miss hills? It should not. If it misses one per cent of the hills, it will lower the yield on a hundred acres enough to lose you the price of a new planter in one season. If it misses one hill in five hundred, it will pay to borrow the money at 6 per cent to buy a new planter—if you can get one that will drop accurately.

Whatever is wrong should be cured. No planter will or can drop accurately both the small kernels at the tips and the clumsy, bulky ones at the butt of the ear. If they are in the seed it is the farmer's fault, not the planter's. Maybe the machine has had some hard usage which has loosened its joints, and pulled its frame out of line. If it has stood in a moist place or out in the weather, the little springs of the drop mechanism may be rusted and weak, instead of keenly on the job.

In any case, it doesn't pay to use the machine at all unless it is doing good work.

The corn can't grow right unless it is planted right.

Our Letter Box

"Americans First" He Says

EDITOR FARM AND FIRESIDE: In your issue of February 27th I read with interest the letter written by Joel Shomaker about Washington's logged-off lands and conditions in that State and community.

I could not help thinking that the State of Arizona was in about the same fix, although the reverse in climatic conditions and problems to solve.

Arizona is in parts arid and in others semi-arid. In either case it requires considerable capital for the homesteader (or as he is termed here, a nester) to take up a homestead and be able to comply with the law.

Arizona being one of the youngest States, its laws have been formed along conservative lines as preached by sentimental cranks and corrupt corporation interests. The result is the State owns some nine million acres of selected lands that are withdrawn from settlement. Then comes the United States Government with millions of acres in forest reserves. In both these cases the lands are leased for nominal sums to cattle corporations who have been able to formulate the laws in their own interests.

The result is, Arizona has a fence law that requires the homesteader to fence crops and lands. This, with the cost of irrigation system by wells (or otherwise), buildings, etc., requires considerable time and capital, and by the time the homesteader has proved up on his land his capital is exhausted, and because he cannot borrow money to purchase stock and the necessary equipment he must let go at a sacrifice.

I notice that moneyed interests are talking of purchasing lands, improving them, and bringing over to the United States the poor Belgians and Servians and placing them on the lands and giving them long time to pay for them. This is all right, but would it not also be as humane and patriotic and profitable to loan money to those already settled on the land and unable to improve the same? A HOMESTEADER.

Would Kill Woodchucks

FARM AND FIRESIDE: Why not have a day set apart in every State to be known as Woodchuck and Gopher Day? Then everyone interested might act in concert in clearing his farm of these pests.

I have found that the best way to destroy woodchucks and gophers is to fill their burrows with sulphur fumes. Use sulphur matches made for this purpose, or else a bee smoker with sulphur in it. A whole brood of these rodents may be exterminated by this method.

T. M. APPLING, Kentucky.

Believes in Mail Insurance

MR. EDITOR: I understand that there is a bill up before Congress, limiting the sale of insurance through the mails. There is no reason, that I can see, why insurance can't be done by mail as successfully as any other business. If this should become a law, what wouldn't some of these lawmakers try to do with all mail business. They could just as easy make another law prohibiting farmers selling produce by mail, and also put all kinds of mail-order business "on the bum." It's the mail-order houses of all kinds that are keeping prices down, and are making it possible for the farmer to make a living.

A. V. FORSBERG, Montana.

Smiles at the World

MR. EDITOR: Did you ever move in the winter, with all your stock, implements, and household goods? We recently had that experience.

We proved up on our homestead three years ago and left because we could not stock and improve it sufficiently to make a living on it. There is no shallow water here, and the wells are between 500 and 600 feet deep, requiring an engine or some means of pumping, which makes them rather expensive. We were unusually successful on our rented place. We have now 10 good horses and 45 Red Polls, including calves. The place we just left is 65 miles from here, on a small branch line of the railroad, necessitating a transfer of cars in shipping, which makes it very costly. We shipped a car of hay and of implements and household goods, and went overland with our stock.

It was quite a sight to see how we had arranged it. We had hay and grain, two young calves, some chickens, ducks, two cats, two dogs, all in various compartments. Sounds were numerous and comical, and I smile yet to think of it. I drove the cattle, and of course was always a couple of miles behind. Passers-by thought I was alone. Small boys escorted me through towns, men stopped me to inquire where I was taking the cattle, calling them a fine bunch; a little girl told me I was brave; a woman wanted to buy my saddle mare; another invited me to put my cattle in her pasture and stay all night, saying she admired my nerve.

Christmas eve, in the moonlight, I sang Christmas carols as I herded my cows and thought of those herders of long ago on the hillsides of Bethlehem, and I felt peaceful and happy and wished all the world might be also. Christmas day, as horsemen, motorists, and pedestrians hurried by, almost all shouted "Hello!" or "Merry Christmas," and I gave them back smile for smile and a Merry Christmas. I enjoyed myself immensely, but I could have had a horrid time if I had wanted to, for there were many open gates by the way, sometimes one on each side of the road simultaneously, and the cattle did get tired; but I knew how they felt, and cheered them. However, I was glad when we were safely back to our homestead.

We stayed overnight with farmers on the way. My traveling suit consisted of khaki skirt, flannel shirt, leggings, and heavy shoes. When Mr. Day goes away I run the ranch. He has procured 40 acres under irrigation about a mile from here, and this necessitates my sometimes caring for the stock, which I love to do: so we are both busy and happy and often tired.

We do live and enjoy the process very much. We sing and dance and draw plans for barns and yards, make candy and pop corn evenings, and we smile a lot. So long as we have life, health, love, and content, with our humble home, don't you think we can afford to smile back at the world? MRS. ROLAND W. DAY, Colorado.

"As Others See Us"

I BEGAN taking FARM AND FIRESIDE about 1896. As crops were bad the last few years I dropped it. I have realized my mistake, for I think FARM AND FIRESIDE is one of the best remedies for bad crops. J. O. LEE, Kentucky.

THE page on spraying and Mr. Henry's on pruning peach trees have been saved for reference when needed. FARM AND FIRESIDE is withal a clean, wholesome educational paper fit to be in any man's house. V. T. LUNDVALL, Massachusetts.

GRACE MARGARET GOULD'S new gowns don't interest me much unless she would send some lady along to wear them. I am a widower with three children.

PETER DOMGAARD, Utah.

I ENJOYED your page on Breaking Up the Setting Hens. Twenty laughs on that page! W. W. BRACKENRIDGE, Ohio.

I AM enjoying "The Brown Mouse," and must say I like Jim, and have met nearly all the characters known by other names, except "Jim." We do not meet many "Jims" in real life.

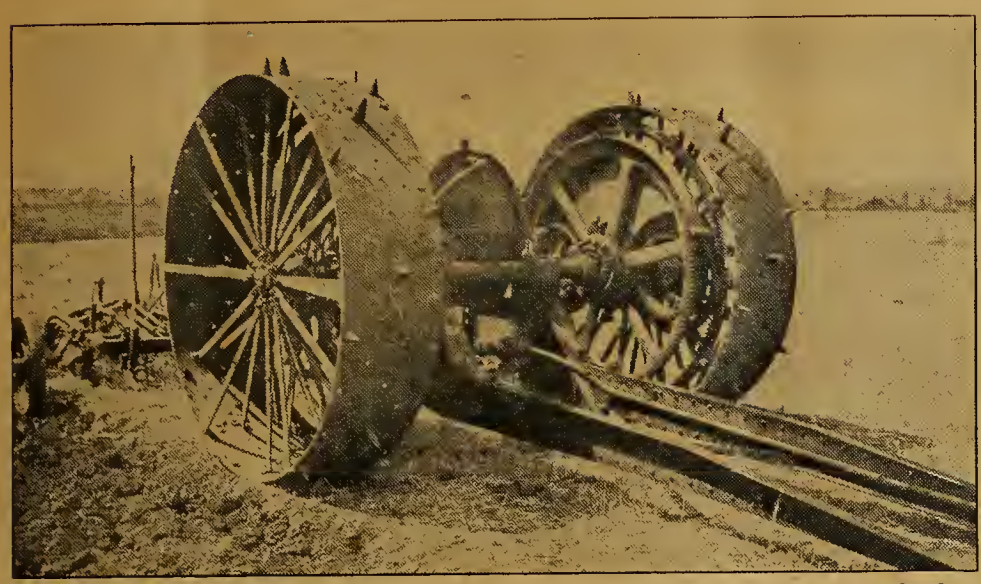
MRS. E. A. SEELEY, New York.

I have always found FARM AND FIRESIDE perfectly reliable in every particular, always vigilant in its endeavor to guard the interests and rights of its subscribers. H. S. C., Oregon.

E-W

New Use for the Old Car

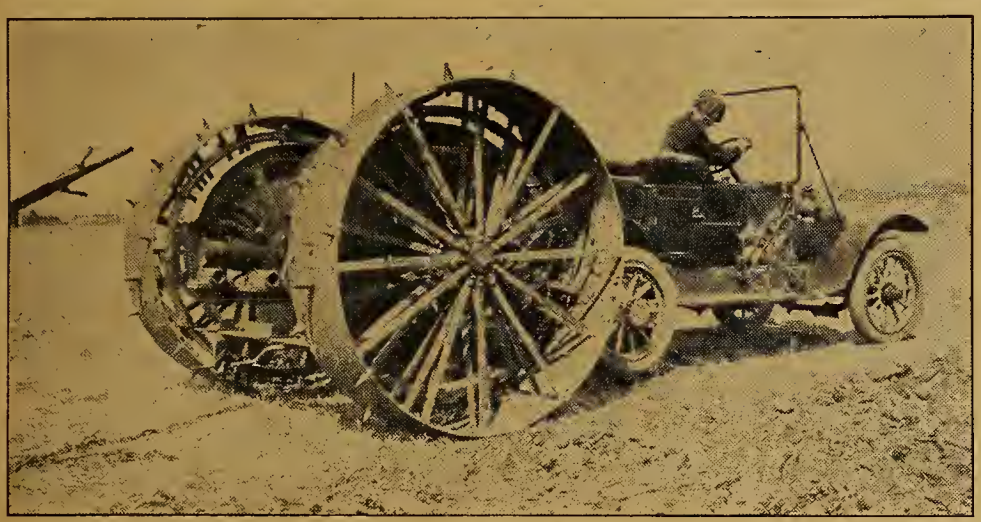
By CHARLTON L. EDHOLM



The automobile backs onto the rails, and the pinions on hubs turn the large wheels

THE farmer of to-day is either a motor-car owner or a prospective purchaser, for he realizes that it is economy to run to town in an hour instead of jogging over the roads in three or four behind Dobbin. The device illustrated utilizes the same car for all kinds of heavy work.

It will draw four plows through hard ground, plowing to a 10-inch depth. It will run a threshing machine, a pump, a corn sheller, or it will draw a couple of heavily loaded trailers to market.



Backing the car into the tractor. This shows pinion on the hub of rear wheel

This is done by a gear-reducing system that allows the engine to run at a 25-mile an hour speed, on the "high" all the time, while the actual rate of progress is reduced to about three miles an hour. The result is power equal to a 10-horse team, and it can also be used as a stationary power generator.

The tractor consists of two big wheels six feet high, with rims up to two feet in width. They contain the gear-reducing system, the power from the driving wheel being transmitted by a pinion on the hubs of the rear wheels. The wheels are lifted clear from the ground, a simple operation, as the car is simply backed up the inclined plane of the tractor frame and drawn by its own power to the exact point where the pinion engages the gears of the tractor.

Only a few parts are bolted to the ordinary car to make it available for this use, and when the day's plowing is finished the owner can detach the car in two minutes and drive it back home, leaving the tractor in the field if desired. By removing the spikes from the wheels the tractor is ready for travel over improved roads, hauling a string of wagons. As the engine runs at normal speed, and as the rear tires are off the ground, the car receives no excessive wear.

The pictures shown here were taken near Los Angeles, California, where the machine plowed hard-baked ground in the middle of summer, an old pleasure car furnishing the power. The fact that the rear tires are clear of the ground is important: they suffer no depreciation from this service. The tractor attachment costs about $400.

A 40-horsepower touring car pulling four 14-inch plows

Culling Out the Farms

DEAR MR. QUICK: I like your talks and your bold appearance. You preach better farming, better stock, and better poultry, and so have been the cause of my culling out my scrub roosters. All of them got it in the neck with the ax. The result is as nice a flock as you ever saw.

You say to your subscribers to give you their own ideas.

Now, doesn't this little incident make you scratch your head and think you had better go to weeding out a little yourself?

I go back from town and buy a run-down farm and make it produce beyond the expectations of those that watch me. What reward have I? As soon as I get a board fence up and whitewashed, along comes the tax supervisor.

He says, "What a show! That old fellow is making that old farm pay; I'll raise him $1,000."

And with concrete a few feet from the house to the road, he raises $500.

And so with all your improvements.

Why not tax those that willfully run down their farms, to show them their folly? They would soon have to change their methods or pass the farm along to someone who would do better.

WM. MACY, Kentucky.

E-W

"Better Get an Indian, Dave, and Enjoy Life While You Can!"

That's the spirit of the modern farmer—speed up, save money, time, energy—*enjoy life.* The horse for plowing and heavy farm work, but for quick, comfortable trips to town—or anywhere else—a 1915

Indian Motocycle

On those farms where efficiency, economy and progress are the watchwords, you'll find the Indian. On many of them are Indian Side-Cars, in which the farmer's wife and kiddies tour in the evening, on holidays and Sundays. It also carries big loads of merchandise and supplies.

The 1915 Indian, in addition to the famous vibration absorber, the *Cradle Spring Frame,* has 9 Basic Improvements that maintain its 14 years' leadership. Behind the Indian is a great big reputation firmly entrenched the world over—a name that has made the home of the Indian the largest motorcycle plant in the world.

Indian Holds World's Economy Record—H. Cameron, riding a 7 H.P. stock Indian Twin, covered 91.2 miles on half a gallon of gasoline on February 17, at Sacramento, under F.A.M. sanction.

Send for copy of the splendidly illustrated 1915 Indian Catalog

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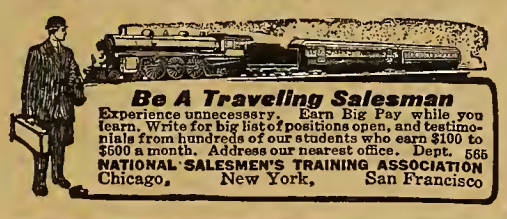

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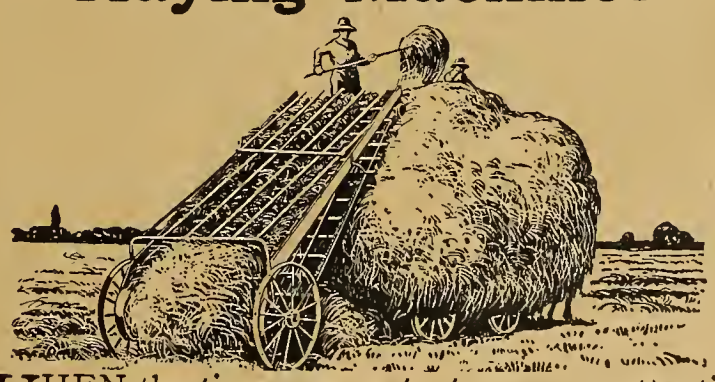

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To Cure That Corn

A Safe and Simple Home Treatment

By CHARLES H. LERRIGO, M. D.

DOCTOR LERRIGO is a physician of high standing in Topeka, Kansas. He is president of the Kansas Association for the Study and Prevention of Tuberculosis, and is associated with Dr. S. J. Crumbine, secretary of the State Board of Health, known throughout the country as the originator of the "swat-the-fly campaign."

This is the first of a series of articles on the care of hands and feet.

I HAVE just read a book of over a thousand large pages: all about corns. And at that it treats of only one variety—the corns for which you have at all times so tender a concern and of which you are so especially considerate when a change of weather is in prospect.

That is one of the things discussed—the barometric aspect of the corn. May it be rated as possessing commercial value? The book decides that it may, and attempts to prove it, probably on the principle of giving the devil his due. But, after all, little that is new is said, and it leaves a corn a corn in spite of its efforts to fasten upon it a name which, at least to the ear, seems to possess some vague propriety—"heloma."

It is nothing new to tell us that a corn is Nature's attempt at protection against irritation of the skin. I say the skin rather than the foot because it is a mistake to suppose that corns are thus limited. Some persons have them on their hands, and a patient came recently claiming the unique distinction of a corn on his scalp, though investigation showed it to be a wen.

One thing is certain, a corn is always an outcome of rubbing and chafing. This theory serves to dispel the teaching of the old-fashioned corn doctor that a corn is yet another of the mysterious dispensations of Providence, that it grows from roots, and that when he "gets the root," and then only, is it all over.

Why a Corn Hurts

As a matter of fact, a corn has no root. However, it may fairly be said to have a nucleus or core. This is composed of the successive layers of skin which go into its making. You are inclined to think of your skin as a single sheet of protecting envelope, but really it is made up of many layers. There is the epidermis or top layer. This has four subdivisions. Just below comes the corium, or true skin, which is subdivided into two layers and contains blood vessels, nerves, and glands. Below this is the subcutaneous tissue, which contains hair follicles and sweat glands, and has muscles of both the voluntary and involuntary kind.

Rather odd to think of the skin having muscles, but it is their involuntary contraction at a chill that creates the act of shivering, and it is the contraction of the hair muscles which induces the hair to stand on end at an appropriate thrill.

Knowing now of these various layers of the skin, you will more readily understand the formation of a corn and the method of its cure. The first irritation causes the top layer of epidermis to become thickened in an attempt at protection. Continued irritation will extend this thickening successively through the lower layers, and it is when it reaches down to the delicate layer involving blood vessels and sensitive nerves that the burning and shooting pain so characteristic of the formation is induced. By this time you have a knot of hard, dense tissue boring into a most delicate network of nerves, every grade of pressure from above being transmitted through this intermediate core.

The necessity for removal of pressure is apparent to anyone giving philosophical consideration to the conditions, and the sufferer comprehends it entirely apart from considerations of philosophy.

An eminent surgeon who observed how invariably the corns of his fracture cases made spontaneous cures has suggested that the best absolute cure for corns is to break a leg. The ensuing vacation from footwear of any kind positively cures the corn, but the plan is not advocated strongly for general use, as the recommendation smacks somewhat of the radical.

How Patent Cures Work

The "one-night" corn cures are mostly dependent upon the action of a caustic which destroys the upper layers of horny tissue, thereby giving some relief from pressure.

Unfortunately they are very seldom able to fulfill the splendid promise of the advertising matter which so cheerfully proclaims their virtues, and frequently they create an ulcerated condition worse than the corn. For home treatment of corns the safe treatment is always slow, but may be none the less sure.

The first essential is the absolute removal of all pressure. If this entails the purchase of new shoes you may consider it part of the prescription and take your medicine cheerfully. The next step is to dispose of the corn. Almost all corn eradicators have as their base salicylic acid, which possesses the property of softening the horny cells and causes them to separate without inflammation.

For home application the safest preparation is one which any druggist will readily compound, consisting of thirty grains of salicylic acid and ten grains of extract of cannabis indica combined with one ounce of collodion. This is applied at night and scraped off the next morning or the following night, and if used persistently will soon dispose of the ordinary hard corn. It should be used with care, and any sign of irritation is an indication to suspend treatment.

One Word of Caution

Soft corns are generally found between the toes, hidden yet by no means obscure. Soaking the feet in hot water containing bicarbonate of soda is good for these. Then dry the feet carefully, remove the dead tissue, but do not try to apply anything caustic, as in that location it may easily lead to ulceration. Place a corn pad of felt or wool in such a way as to keep the toes from rubbing and to relieve pressure, and use borated talcum as a dusting powder.

In paring corns any instrument used should be sterile. The corn should never be cut to the point of bleeding. It is well to remember that in old people this simple operation has caused senile gangrene.

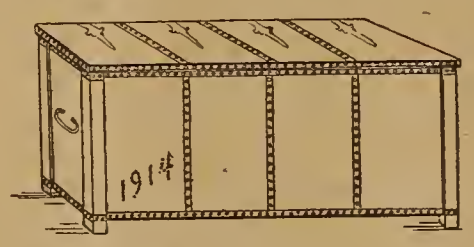
When corns or bunions have reached the point of ulceration and pus formation, they must be treated just as any other such case. The pus may be relieved by hot poultices. The feet may be soaked in hot water and then wrapped in cloths soaked in a soothing mixture composed of equal parts of linseed oil and lime water with a dram of spirits of camphor added to a four-ounce solution.

A Pretty Woodbox

THIS woodbox may be made and ornamented at home if one cares to expend a little money and more thought and care on something really good and substantial.

It is advisable not to depend on using a common packing box to start with, as they are badly joined, and the wood is thin and knotted or otherwise imperfect. Make a box, or rather a chest, of ⅞-inch deal, put it together solidly, and finish it smoothly, either with or without legs, and long enough to accommodate easily sticks of the right length. A good effect is obtained by having the sides joined on corner posts which project a little, and extend an inch or so below the bottom. The box should be provided with a lid a little longer and wider, so that it may be lifted easily.

After smoothing off any roughness with fine sandpaper, the box should be stained



outside and inside with several coats of oil stain, each coat allowed to dry before the next is put on. The stain should be rubbed in with a cloth pad, and after the final coat several successive coats of linseed oil (raw) should also be rubbed in. After it is all perfectly dry, a strong brass handle should be bolted to each end so that the box may be moved easily when full. The lid should not be fastened on until the last thing, as it is much simpler to decorate box and lid separately.

For ornamenting use brass hooping—the thin strips of brass employed by woodenware manufacturers for the hoops of the best grade of pails and tubs. This is about three fourths of an inch wide, and is thick enough to be strong and stiff but not rigid, and with the help of hammer and pliers it may be fitted smoothly over angles. With it a number of designs in straight lines are possible, and when it is nailed in place with brass-headed nails placed at regular intervals, the effect is very good. The holes through which the nails are to pass must be punched beforehand, and the rough side of the holes turned outward, or the brass will not lie flat against the wood. The brass heads of the nails, being concave, will close down over the rough edge of the holes and conceal it. Date or initials may be marked on the home-made chest with brass nails placed close together.

After the decorations are complete the lid should be fastened on with long brass hinges extending across the top. Do not attempt to carry the strips of brass continuously from the cover down the back of the box, as they are not flexible enough to allow the lid to open readily.

The color of the stain used depends, of course, on your own taste, but ebony, Flemish oak, or antique oak gives the most satisfactory results. When the brass becomes a little dulled by exposure to the air the effect is better than when it is bright.

Garlic, Good-By!

By A. O. Stockwell

Wild garlic

GARLIC has been an unwelcome visitor in the United States for a century and a half. Though at present infesting the East Central States chiefly it shows a liking for all soils and all climates, except very cold ones. It is a most industrious weed because, unless frozen solid, it will grow all winter.

Following are some of the achievements of garlic (also called wild garlic and wild onion) up to date:

Garlic has caused the abandonment of dairying and wheat-growing in some sections.

It has caused farms infested with it to be offered for sale.

Garlic bulblets contaminate wheat, cause mechanical difficulties in mills, and give a garlic flavor to bread made from the flour.

Garlic-growing in pastures spoils the flavor of milk and dairy products.

The flesh of animals that have grazed on garlicky pastures has an offensive flavor.

You will remember how Longfellow spoke of this wild onion:

But if out of humor and hungry, alone
A man should sit down to dinner, each one
Of the dishes of which the cook chooses to spoil
With a horrible mixture of garlic and oil,
The chances are ten against one, I must own,
He'll get up as ill-tempered as when he sat down.

The odor and flavor of garlic is due, like the odor of rotten eggs, to sulphur compounds. Garlic is a member of the onion family, grows in pastures, cultivated fields, and even in the woods. In undisturbed places it grows in clumps, but when a piece of land infested with garlic is cultivated in the ordinary way the plants are scattered.

Like the onion, the leaves of garlic are round and hollow. In June or July garlic ripens, bearing at the top of its stem a round cluster made up of about 75 little bulbs, sometimes mistaken for seeds. The stem is about two feet high. They are called aërial bulblets to distinguish them from the underground bulbs.

How Wheat and Garlic Mix

The aërial bulblets are just about the size of kernels of wheat, and when mixed with wheat cannot be separated by any practical known process until the wheat has been dried. The bulblets then become lighter than the wheat and are removable with a fan or grain cleaner.

The underground portion of the garlic plant consists of a bulb from which the rootlets grow. Each bulb produces from two to six new bulbs each season. In these ways the pest spreads. The main bulb is soft and whitish in color. It is commonly called the soft-shelled bulb in distinction from the hard-shelled bulbs which grow from it. The hard-shelled bulbs are slow in germinating, and the soft ones begin to produce more of the hard bulbs before the first ones have fully germinated. Thus a constant supply of new bulbs keeps coming on which makes the pest hard to control.

Garlic seldom produces true seed except in the South. It spreads chiefly by its aërial bulblets and root bulbs. A common way of spreading it is to sow impure wheat—that is, wheat containing the bulblets of garlic. Badly contaminated wheat may contain 10 per cent of these bulbs.

Garlic is a bad pest on any farm, but is exceptionally so on a dairy farm because of the strong flavor it gives to the milk. A temporary expedient is to keep the cows off the infested pasture at least four hours before milking. This will greatly reduce the bad flavor. Then if the milk stands at least four hours the flavor may disappear altogether.

You Can Get Rid of It

Here are the best means of eradicating garlic altogether:

1. Pour kerosene on the plant from an ordinary kerosene can. Do this before the garlic heads out. Soak the plants thoroughly.

2. Carbolic acid applied in the same way is also effective.

3. Dig the garlic out with a mattock. Choose a time before the middle of May, when the ground is soft and moist. With practice you can take out a plant at every stroke, including the bulbs that have not yet sprouted. Destroy all the plants and bulbs removed.

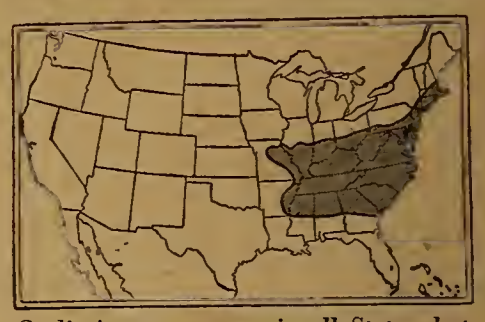
4. If a large field is infested, plow it up in the fall when the new plants are a foot high. At this time, which will be in October or November, the new bulbs have not yet formed. Plow about seven inches deep, and be sure that the tops are completely covered. In the spring, plant a cultivated crop such as corn. Check-row it in and cultivate well. The fall plowing kills the plants from the soft-shelled bulbs, while the spring and summer cultivation kills those from the hard-shelled bulbs. A few of the latter that are slow in germinating may not sprout till the following year, but if you plow again late in the fall and then plant a cultivated crop again in the spring, you will get almost all of them.

5. To get rid of garlic that has overrun a pasture, plow up the whole pasture and follow the method just given.

6. Spraying with orchard-heating oil is another good way. On large fields the work costs about $4 an acre when done with a power sprayer. For smaller areas you can use a hand sprayer. The oil costs about 6 cents a gallon. It kills the plant and the bulbs, but does no harm to the soil, nor is it poisonous to stock grazing on a sprayed field.

7. Still another way to kill garlic is to pasture the field with sheep. They like the tops, and a few years' grazing will kill the pest, especially if the pasture is inclined to be poor. If plentiful, salt the garlic plants occasionally to be sure that they are eaten.

All of the methods are most effective if applied before the plants head out. Garlic cannot be eradicated by ordinary cultivation nor by smothering with timothy, oats, or other close-growing crops.



Garlic is a mean pest in all States, but the shaded part of the map shows where it does its greatest damage

It Paid Him to Read

By C. R. Weidle

HOW ignorant we can be! For many years I heard experienced farmers complain that they could not grow clover as they once could.

A few years ago, after reading of the value of lime in growing clover on acid soils, I decided to experiment with lime on my soil. I decided to give it a good test. One half of a 14-acre field of oat stubble was given a good coat of barnyard manure before plowing. On the other half, where no manure was applied, about 600 pounds of hydrated lime an acre was applied after the ground was plowed.

The whole field was seeded to wheat with timothy seed sown in the fall, and clover seed in the spring as usual. After the wheat crop was harvested there was an even mat of clover and timothy over the entire portion of the field where the light application of lime was applied. On the manure portion of the field, but where no lime was used, only here and there a small patch of clover was to be seen, and even the timothy was a poor stand.

The following season twice the amount of choice clover and timothy hay was cut per acre from the limed portion of the field where only manure was applied.

This was the first lime used for agricultural purposes in my neighborhood.

Since then the amount of lime used each year in this section has increased at a wonderful rate. We now know how to grow clover successfully.

E

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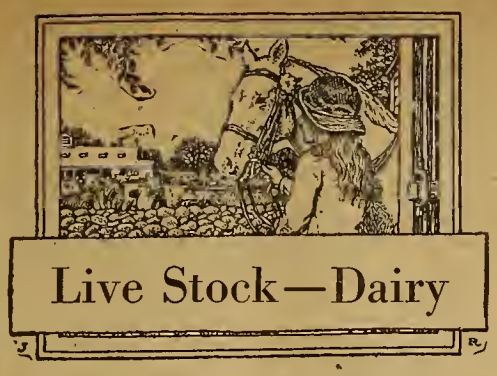


Live Stock—Dairy

How Far to Water?

By Walter Stemmons

HOW many steps do you take each day in your routine of work?

Just listen to this story of an Oklahoma farmer who lost more than three months in leading horses to water, and then do a little figuring on your own account.

In Hughes County, Oklahoma, a farmer watered his horses from a spring 200 yards from his barn. Every time his work horses got a drink the farmer and his horses walked 400 yards out of their way.

One day the county agricultural agent, T. A. Milstead, visited the farm and noticed that the farmer was taking many unnecessary steps. The agent suggested that a well be dug near the barn.

The agent believed that water could be struck at 23 feet. The farmer doubted this, but said he was willing to dig 50 feet if he could be assured of finding a plentiful water supply. Finally he proceeded to the digging of a well, and to the surprise alike of the farmer and the county agent a beautiful supply of water was struck at only 8 feet.

Then the county agent and the farmer got to figuring how much time was saved by the well. The farmer found that he spent 30 minutes on each trip to the spring and back. During the time he had lived on the farm he had spent 91 days of 10 hours a day leading horses to water. The time of the horses was also lost.

The farmer figured that his 8-foot well was about the best investment on his place.

Corn-Stalk Disease

THE so-called corn-stalk disease, which causes cattle to die in stock fields, has been investigated by I. E. Newson, a Colorado expert. He says: "Post-mortem examination has revealed the paunch to be filled enormously with dry food.

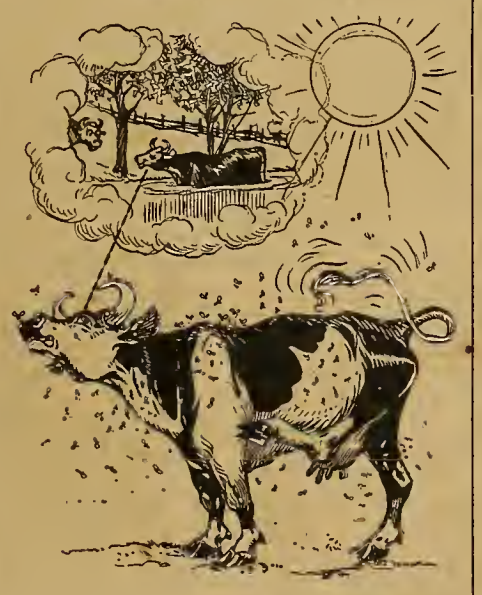
"We are inclined to think the whole trouble due to engorgement with dry food, with insufficient water supply. Animals drink less in winter than they should because the water is cold and usually scarce."

Why the Cows Went Dry

A Story in Three Parts

Part II

Awake at the Switch



THE flies would bite and I would fight.
No rest—and so when I
Could find no shade to check their raid
I voted to go dry.

Part III will appear in next issue

Cattle That Eat Twine

By G. A. Randall

IN ANSWER to a question appearing in a recent issue of FARM AND FIRESIDE in regard to whether or not binding twine is injurious to stock eating straw containing it, I give my experience:

Three years ago while on a rented farm, I fed a lot of oat straw containing binder twine to eighteen young stock, principally yearlings. The straw was fed from racks in the yard. The grain before threshing was short and required nearly six pounds per acre of twine to bind it.

No ill effects were noticed for several months, when all at once three of these yearlings grew sick. Large doses of linseed oil were given promptly, and during the next day excrements in piled form, some of them as large as walnuts, passed from these calves. On examination they were found to be very hard, and in some of them the undigested twine was still intact.

Undoubtedly this was the cause of their illness, as they soon got to eating again.

They were then all debarred from eating so much straw, getting corn fodder and beet tops as part of their roughage. No further sickness occurred in the drove. Since then I feed straw, but always other roughage with it.

EDITOR'S NOTE—It seems reasonable to believe that binder twine in straw can increase the bad effects of constipation. But a too large proportion of straw roughage and a lack of succulence or other loosening feed will affect cattle and calves, particularly during their first winter, in the way described by Mr. Randall.

Calves and cattle numbering thousands weigh less in the spring than when they go into winter quarters just because little or no succulent feed is provided.

Has anyone feeding plenty of good silage in connection with straw containing cut twine binders had any trouble from this cause?

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Which will you buy
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WITH A GREAT MANY machines or implements used on the farm it doesn't make much difference which of several makes you buy.

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BUT IF IT SKIMS CLEAN TO the one or two hundredths of one per cent, as thousands and thousands of tests with a Babcock Tester show the De Laval does, then it's a cream saver, and the most profitable machine or implement on the farm—a real "savings bank" for its fortunate owner.

AS TO HOW MUCH CLEANER the De Laval skims than any other separator, the best evidence of this is the well-known fact that all other makes were discarded by the creamerymen years ago, and that to-day 98% of the cream separators used in creameries the world over are exclusively De Lavals.

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REMEMBER, THAT IF YOU want a De Laval right now there is no reason why you should let its first cost stand in the way, because it may be purchased on such liberal terms that it will actually pay for itself out of its own savings.

A De Laval catalog to be had for the asking tells more fully why the De Laval is a "savings bank" cream separator, or the local De Laval agent will be glad to explain the many points of De Laval superiority. If you don't know the nearest local agent, simply write the nearest De Laval main office as below.

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Sponish Metal Tile

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Take a piece of any other galvanized steel, bend it back and forth several times, hammering it down each time. You will then be able to flake off great scales of the galvanizing with your finger nail. Apply this test to a piece of Edwards Tightcote Galvanized Steel Roofing—you'll find no flaking.

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EDWARDS Patent Interlocking Device
Prevents Warping, Buckling or Breaking. Protects Nail Holes. Roof never warps, buckles or breaks—nails are driven through the *under* layer not exposed to weather—cannot rust. No special tools or experience needed to lay EDWARDS Galvanized Steel Roofing; anyone can do the work—lay over old shingles if you wish.

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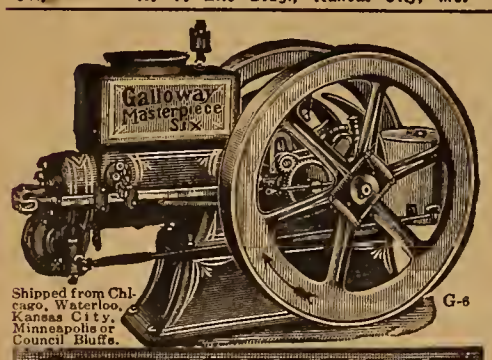

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The Roof Over Your Head

By D. S. BURCH

WE'RE going to tell you about some of the modern roofing materials of which a few are mentioned in this article. Other roofings are now under thorough investigation and will be discussed in later issues.

One of many designs of metal shingles for residence use

Portion of dairy barn roofed with asbestos shingles

WE'LL leave out the usual rigmarole which begins with the profound assertion that twenty million families in this glorious country waste $2.93 a year through bad judgment in selecting roofing. Never mind that; what's gone is gone.

The main problem is: Which of all the different kinds of roofing is the best for my house or barn or hog-house or granary?

Let's consider the principal roofings alphabetically, beginning with asbestos.

This material is a fibrous rock. For roofing it is shredded and woven into a heavy felt and then treated with asphalt to make it waterproof. The result is an artificial stone which neither rots nor cracks, nor melts, nor requires paint. Asbestos roofing is fireproof against burning embers or sparks and stands low temperature as well as high.

I have never heard of a good asbestos shingle roof wearing out. They cost from $7.25 to $15 a square (100 square feet). Repairs are seldom needed, and they make a warm roof for winter and a cool one for summer.

The chief drawback is the amount of money you have invested in the roof. A $200 roof eats up, at 6 per cent interest on your money, about $12 a year, which in ten years at compound interest would buy a good wood-shingle roof and pay for the cost of laying it. But your wood-shingle roof will last longer than ten years. So you see when you buy an asbestos roof you pay for more than a roof. You pay extra for being rid of the annoyance occasioned by repairing and re-roofing, also for the satisfaction of having a roof that won't burn.

Asphalt Roofing

Asphalt roofing, the next class, is made of felt saturated with asphalt. Various coatings are sometimes used to increase its attractiveness and prolong its life. But in the plain form asphalt roofing is black, or nearly so, in color. Its durability depends most of all on the grade of felt and asphalt that is used in making it.

Never buy an asphalt roof without a written guarantee. Without it you can't tell what kind of service you will get. Asphalt undergoes chemical changes as it weathers, and gradually loses its ability to shed all the water.

The way you put it on is also important. Be sure to have an overlap of at least two inches; then cement the edges well, and lastly put hot asphalt over the nails or metal disks used for holding it. Battens and patented clamps are also used, and they seem to be an improvement over the old method of nailing.

Putting asphalt roofing over old shingles is sometimes recommended. This saves the work of removing the worn-out shingles, but gives an uneven surface. Many an asphalt roof has become leaky and worthless from holes caused by someone walking over the roofing when the surface beneath was uneven.

Asphalt roofing of medium grade, carefully laid, will last about eight years. The heavy grades are good for twice as long. Prices range from about 90 cents to $2 a square. It usually comes in rolls, takes only a fourth-class freight rate, and you can haul the roofing for a big building in one load. The low price is due largely to the improved machinery by which it can be turned out in huge quantities. A roll of felt is made to pass through a saturating vat containing the water-proofing material. Then it goes between rollers that press the saturating material into the felt, the surplus falling back into the vat. Then it goes to the coating roll which gives it the desired surface. Next talc is put on to keep it from all sticking together, and after that it goes over cooling drums from which the roofing finally reaches the winder.

The process described does not give all of the details but simply shows the relatively simple process by which ordinary asphalt roofing is made. Another point in favor of this material is the short time in which a large roof can be laid. On the other hand, ordinary asphalt roofing is not very attractive, it tears quite easily in handling, and after a few years will require attention and probably repairs.

Asphalt roofing, used with discretion, makes a serviceable and economical roof for temporary buildings, also for permanent buildings in places where looks are not important.

Metal shingles suit all forms of architecture

An asbestos shingle roof rather artistically laid

Concrete Tile Has a Future

What is known as burlap roofing is asphalt-felt roofing with burlap for one of its layers. The burlap gives strength and body so it will stand rough usage without tearing. You can lay such roofing over shingles with fairly good results.

Even before the invention of Portland cement, concrete roofs were successfully made in foreign lands, and the use of Portland cement for roofs is not an experiment. In this country it is not in general use. The concrete roof is fireproof, while the burnt tile will not stand the application of water when it is heated by fire.

It should not be used on the temporary or unsubstantial structure. But on the building of brick, stone, or concrete, or even on the large and substantial frame structure, especially when covered with stucco, the concrete tile seems certain to win wide approval. It is everlasting and calls for no repairs. Tile machines are now made for molding concrete roofing.

Under favorable circumstances concrete tiles may be made for less than the cost of a good quality of wooden shingles, but where they are manufactured in town and hauled to the building their cost runs well up to that of asbestos shingles or the cheaper grades of burnt tile. In Indianapolis, for instance, they are reported as selling for between $7 and $8 a square.

Good Metal Roofs

Corrugated metal has several excellent qualities, one of which is its rigidity. Consequently, the roof structure needs little more than a substantial framework if the rafters are spaced so they can be nailed to. In addition it is fire-proof, which makes it good for lumber yards, garages, and shops. The appearance of corrugated metal roofing is neat, though not showy. Pure iron (free from carbon) is better than steel because iron rusts slowly, whereas steel corrodes. Heavily galvanized iron or steel roofing is a safe investment, but the painted grades are less satisfactory and in the end really more expensive. Prices on galvanized corrugated steel roofing range from about $2 to $5 a square.

As ordinarily laid, the nails are exposed and the heads rust. Besides that, the galvanized coating of the roofing is broken where the nailhole is made, and rust starts there first. So the roof is most vulnerable where it should be the strongest. This fault can be partly overcome by using galvanized nails with lead washers under the heads. Reports on iron roofing are more favorable.

A New Hampshire poultryman has several hundred colony coops roofed with different materials, among them galvanized iron, and this is what he says about them: "The corrugated galvanized iron roofing has been on for eight to ten years, and has shown no signs of wearing through. I like it. You can put it on quickly and it looks well."

Metal shingles are gaining considerable popularity, which we believe they merit. They are made in sheets or clusters which have the shape of the individual shingles stamped on them. This gives the appearance of an ordinary shingled roof, and also reduces the time and labor required to lay the roof. The nail heads are covered by ingenious joints which also provide for expansion and contraction.

Metal shingles are embossed in various designs to suit the taste, and are even made to resemble Spanish tile.

The best grades of metal shingles are those galvanized after the sheets have been stamped out.

They clear quickly of snow, do not discolor rain water, and are fireproof. The cost ranges from about $3.50 to $7 a square.

Metal shingles have not been in actual use long enough to demonstrate their durability. Roofs laid ten years ago are in excellent condition, and we believe a good grade of metal shingles will last at least twenty-five years.

EW

Felt composition roofing is especially good for inexpensive structures such as this. It soon saves enough hay to pay for itself

What is Good Wheat?

DO WE get the best price for the best wheat?

Most wheat is sold according to rules made by the Minnesota Grain Inspection Department. A good deal of suspicion has existed as to the way the grain is graded when it comes in as compared with the way the same work is done going out, and most of us feel that a good deal which goes in as No. 2, or lower, is shipped out as No. 1. But the correctness of the grades have been accepted by us just as they were by our own fathers.

Doctor Ladd of North Dakota challenges the grades themselves. When No. 1 Northern was selling at $1.17, No. 2 went at $1.14, No. 3 at $1.11, No. 4 at $1.08, and Rejected at $1.05. Is there that much difference in the real values?

The answer to this is found in the fact that at these figures there was a profit of 17 cents a bushel in milling the best grade, and of 31 cents in milling the poorest. The lower the grade the more money the millers made out of the wheat.

These grades were established when such by-products as bran, middlings, "red dog," and screenings were either unsalable, or much cheaper than now. We are losing a great deal of money on these antiquated, incorrect grades. The lower grades are worth much nearer the price of No. 1 than the market indicates.

Don't Scorn the Stalk

CORN has fully a dozen characters of growth that can be controlled by seed selection. The position of the ears on the stalk, size of ear, roughness of kernel, upright or drooping ear, earliness, shape of kernel, color of kernel, number of rows on the cob, color of cob, straightness of row, size of cob, length of husk, number of ears on a stalk—all these things are hereditary. Several of these characters affect the yield per acre.

A large ear, a small cob, and an ear on every stalk cannot help but give a large yield. You can get the first two characters simply by a careful selection of seed corn in the ear. But if you want to know still more about the corn—if you desire to get early maturity, vigorous stalk, drooping ear, and ear in the middle of the stalk—you will have to see the ear as it grows in the field. That is, to get corn to grow just as you want it to grow, consider the whole plant and select the seed in the field.

My Homesick Corn

By L. A. MacCumber

I HAVE for several years past been trying out the idea you gave. Most of the field corn raised in this section of Michigan is shallow-grained, more or less of a mixture of everything but good genuine highly bred pedigreed dent corn.

I became convinced that fine dent corn could just as easily be raised and brought to maturity here as the scrub, and I was desirous of raising more corn and less cob. Others are doing the cob-raising; I leave it to them.

I determined first to try outside seed corn for planting. I selected a deep-golden colored pure dent variety with small cob, and deep kernels of medium width. The ears averaged from 9 to 12 inches long.

Ordinarily when corn from outside sources is planted on common soil here, the returns are not worth the labor. It takes from three to four seasons for it to begin to feel at home.

Here is my method of coaxing a promising variety of dent corn to get quickly accustomed to its new conditions. When I expect to try out a new variety I manure a plot of clover sod just after hay is harvested. This will induce a quick growth of second crop clover, and when it begins to show blossoms I plow it under, usually during August or the first week in September. Just before hard freezing weather sets in I give it a good dragging over and leave it until the next spring. In the spring I replow, working over with the disk until the sods are cut up and made fine; then I go over it with a spring-tooth lever drag, lapped half, until the soil is fine and mellow. Just before planting I go over the plot with a sweep or spike-tooth drag to level off. I mark out four feet apart both ways, and plant three or four grains of corn in each cross-check. Just as soon as the corn begins to show through the ground I give it a light cultivation, having the outside shovels turned so as to throw just enough mellow soil over the rolled-up spikes of corn to cover slightly. This gets the roots of the corn down into the cool, moist ground.

Once or twice I have had my corn plants frosted to the ground by late May or early June frosts, but it had such a stanch, deep-set root system it soon caught up and made good, being fully matured by September and thoroughly dried out before cold weather set in. This plan I have told about causes the corn to mature and harden in a short time. The second or third season it can be depended upon for the general crop if care has been taken to select earliest and best, fully matured ears from standing stalks in field.

Hegari—A New Crop

By C. Bolles

TOO often we hurrah over one season's trials with a wonderful crop, and the very next year say nothing about it.

Two noteworthy exceptions to this rule have been noticed—feterita and Sudan grass.

I do not claim to have discovered anything new, yet I believe we have yet another crop (introduced into the United States about 1912) that will "stick," and its name is hegari. This season's grain yield was unusually good both here in Nebraska, and in Texas. By here I mean on my own trial ground.

Each stalk bears its head erect

My results placed hegari at 64 bushels an acre, feterita at 56, and kowliang No. 310 at 57 bushels.

Hegari retains a green foliage and a kafir-like sap when the seed heads are ripe. Thus it, as a variety, will not only produce grain but edible stalks. Perhaps the stalks will not be eaten with the relish that kafir stalks are, but still much more readily eaten than feterita, for example.

In the picture we have kowliang No. 310 in the background and hegari in the foreground. It should be noted that the hegari always bears its heads erect, has an abundance of foliage, and grows from four to five feet in height—an ideal height for a corn binder.

The seeds are white, very similar to white kafir.

THE best way to apply rock phosphate is to mix it with stable manure, or put it in with a plowed-down crop. It sticks by the land no matter how it is applied.

BLUE-GRASS pastures are benefited by a good disking every three or four years. It prevents sod-binding. It seems, at first, to have spoiled the sod, but that's a hard thing to do with as tough a plant as blue grass. Better still, use a disk drill just as the frost is coming out of the ground, and sow in the sod white clover, sweet clover, alfalfa, or any other seed needed—blue grass if desired. Did you do it this year?

WE BELIEVE that shipped-in seed corn takes about three years to get acquainted with the new soil and climate so as to be as good as native varieties. Thus, a man beginning with a new variety brought from afar should grow enough this year so that by selecting the best ears for next year he may be prepared to depend on the new sort for his main crop year after next. Any experience to the contrary?

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Orchard—Garden

Prune After Blossoming

By B. H. Darlton

I HAVE been in the Northwest fruit belt six years, and in that time I have never seen the blossoms of peach or other soft fruit injured by late spring frost. But several times many of the fruit buds have been killed by hard freezes early in winter, before they became perfectly dormant.

I always examine many fruit buds late in winter by cutting into the heart of them with a sharp knife blade, when any frost damage will be readily detected by the darkened or dead fruit germ, or in some cases the entire bud will be dead. I also find that on some twigs all buds are injured, while on others one or more are perfectly good.

It therefore stands to reason that if a majority of the buds are killed it is well to defer heavy pruning until after the blossoming period, when it can be easily decided which branches may be removed without lessening the chances of a fruit crop.

A fair crop of fine peaches may often be secured by following this plan when otherwise failure would result. It is most important to increase the crop during seasons of scarcity in every way possible, as even a half crop then is more highly prized than a full crop when fruit is plentiful.

Other soft fruits may be managed in the same manner, as it does not injure the trees to defer pruning until after the blossoms have dropped.

Blackberry Blight

By G. S. Thornton

FOR the orange rust of the blackberry no cure is known at this time except the heroic one of pulling or digging up the diseased plants and burning them. But if this cure is applied promptly the plantation may be kept fairly clean, and perhaps serviceable for years.

The bush should be eradicated at the first indication of the disease manifested by two later sprayings (before the fruit leaves. If you wait until the leaves are covered with the yellow powder (spores), many other plants close by may have become infected. Spraying dormant raspberry canes with a strong solution of iron sulphate (green copperas), followed by two later sprayings (before the fruit sets) with Bordeaux mixture, has been found a promising preventive of raspberry blight.

In my experience spraying dormant grapevines with the strong solution of iron sulphate has been effective in preventing certain grape diseases, and as important as later sprayings with our standard fungicide. It is not impossible that such spray applied on dormant blackberry bushes may help to keep the vines free from orange rust.

Paper Stops Borers

By J. D. Yancey

Begin to wind at the wide end

AMONG the pests with which the orchard planter has to contend, perhaps the flat-headed apple-tree borer is the worst. The female deposits the eggs at the beginning of hot weather on the bark of young fruit trees, near the ground. Most of the damage is done during the summer months. The later broods remain in the trees all winter and emerge the following spring. The borer completes its life round in one year. The eggs are about as large as the head of a pin and are covered by a hard shell. When first hatched the larva can hardly be seen with the naked eye.

But in spite of its small size it begins at once to injure the tree. Burrowing into the bark, it tunnels its way entirely around the sapwood of the tree, thus girdling and finally killing it. As the larva reaches maturity it bores toward the center of the tree stem where it goes into a dormant stage and then emerges as the adult beetle.

After the larva penetrates the bark of the tree no spray or poison can reach it, and unless the grubs are discovered soon after the eggs hatch and the borers dug out, the tree will die in a few years.

This borer prefers to deposit eggs near the surface of the ground and if the tree is protected for twelve inches up, it will escape injury. We here in the Pacific Northwest have successfully used cones made from magazine paper. Magazines having heavy glazed paper are best, as the paper is tougher.

The pictures show the construction and use of these wrappers. First tear a leaf from a magazine and turn down one corner, folding it back half the length of the sheet. Run your thumb and finger down the fold, pressing it to a sharp straight edge. Rake away the earth to a depth of one inch and proceed to wind the sheet of paper onto the tree, beginning with the wide end. When the entire sheet is wound on, pin the end to an underlying layer of paper. Rake the dirt back around bottom of cone, and see that it stays on during the whole season.

These wrappers when finished should

Finally pin the paper in position

be slightly flaring at the bottom, but should fit snugly at the top. The paper will not bind the bark.

We put cones on all trees the first year, and the second we put them on the weak ones only. The borers are less apt to trouble thrifty two-year-old trees. Put the wrappers in position early in the season (at least by May), before any eggs have been deposited.

This will be a slow job to some at first, but anyone with nimble fingers soon gets the knack. Two of my men each average 700 cones a day. I would not attempt to grow trees in a section infested with borers without these wrappers.

Called Worthless, But—

SEEING in a recent issue of yours, the best of farm papers, a paragraph asking for readers' personal experiences with coal ashes as fertilizer, I decided to put in my word.

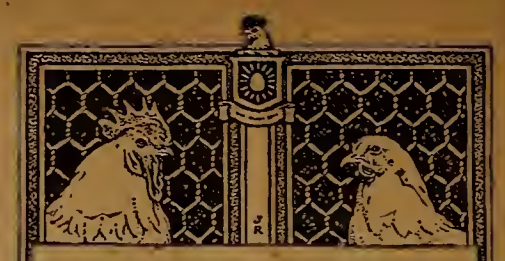
Several years ago, though living in the city, we tolerated two good-for-nothing Baldwin trees in the small back yard. These trees had never been known to bear more than one or two bushels of small wormy apples. One winter we heard a story of what great things coal ashes would do as fertilizer for hayfields, so, though rather skeptical, we decided to save our ashes and try the experiment on some hay land my father owned out in the suburbs.

We piled the ashes in the back yard under one of the Baldwin trees, and next spring carted them onto the hayfields. The hay grew a great deal better that year, but the greatest surprise was the old Baldwin tree. We had sprayed it once in the spring, and we got three barrels of firm, good-sized, wormless apples to be enthusiastic over after giving away at least another barrel to the neighbors.

Since then we have always put coal ashes on the fields in addition to commercial fertilizers, and we also find the ashes of very material value for use around the young trees in an orchard we are starting. In winter we pile the ashes around the roots of the trees, and in this manner they serve the double purpose of fertilizing and keeping the ground from freezing and thawing.

Another case which proves that coal ashes have fertilizing power, in my mind, is the sight of the most luxuriant growth of nasturtiums waving from the top of a pile of ashes in a city dump.

ROBERT E. HUSE, New Hampshire.



Poultry Raising

Quisenberry's Rules

DIRECTOR QUISENBERRY of the National Egg-Laying Contest, Mountain Grove, Missouri, gives these rules for breeding poultry:

Breed only from stock of high vitality which has never been seriously sick with any disease.

Breed from mature males and females.

Breed from birds as near ideal in shape and color as possible. A good all-round bird is better to use as a breeder than a bird exceptionally good in one point and exceptionally poor in others.

Let the male be exceptionally strong in points where the female is weakest, and vice versa.

Instead of buying ten males at one dollar each, and thus getting very ordinary males to head your flock, it is much better to get one good male at $10 and mate him in a separate pen to ten or twelve of your very choicest females.

The condition of the parent stock is largely, in fact almost wholly, responsible for the condition of the baby chicks. A chick well born is half raised.

Good strong, vigorous males and females, properly mated, will store so much vitality in the eggs that the embryo can stand a lot of abuse in incubation, and the baby chick will overcome and outlive many of our mistakes in faulty breeding and improper feeding.

The Comfortable Chicks

By Mrs. F. W. Jares

WHEN chicks are hatched and placed with the old biddy in the coop, I keep them closely confined for two days, then I lift the coop a little by placing little blocks or stones under two corners, so that the chicks can run in and out at will.

Keep the hen confined at least three or four days so she will well know her new home, then let her out in the morning after the dew is off and she will return in the evening.

After that I do not feed each batch of chicks separately, but have a roomy coop placed on blocks high enough to let in all chicks, but low enough to keep out old fowls, and in this coop I have a hopper filled with food for the chickens, and they can come and help themselves any time.

There is no trouble in having the chickens overfed when they have free range, and even incubator chicks without mother hen take fine to this method.

The best point in this is that in the evening each hen, with little or no trouble, will go to her own coop, as the coop is left open all day. There is no trouble with other fowls going into the coop. There is no food for them. And, too, when a storm comes the hen, knowing that the door of her home is always open, dashes for it, and since the coop is kept in good repair, with good roof, there is no need for me to go out into the rain hunting up the chickens. Hardly ever do I need to drive the flock of chicks under shelter, and having the coops on an elevated spot, I can peacefully sleep at night even if it rains heavily.

THE eggs that give the best hatch, also furnish the chicks that live. Vigor in the egg makes vigor in the chick.

What 18 Hens Ate

CAN I make a few chickens pay their way on a town lot? This was the question S. H. Bailey, a Richardson County, Nebraska, clerk worked out last year for his own satisfaction.

The place to house the chickens would not cost Mr. Bailey anything so he stocked up February 1, 1914, with 18 hens of mixed breeding. His account for one year stand as follows:

EXPENSES	
Investment, 18 hens	$14.25
Feed and medicine	50.02
Total money paid out for the year	$64.27
RECEIPTS	
Eggs and chickens sold and eaten during year	$73.98
45 hens on hand @ 75c	33.75
One rooster on hand	1.00
Feed on hand Feb. 1, 1915	5.00
Total resources	$113.73
Original investment	64.27
Net income	$49.46

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Rabbits for Two Markets

How a Middle-Aged Woman Has Made a Good Income

By A. V. R. MORRIS

WHEN a child I preferred rabbits to all other domestic animals [said a prosperous-looking middle-aged matron living in a suburban village], and by caring for these pets I acquired a knowledge of their habits and what is necessary for their health that has since proved of commercial value to me.

I never had thought of making money by raising them until my income was abruptly swept away by a bank's failure. For nearly forty years before this disaster I had been living in a large city, but in order to make my remaining two hundred dollars last as long as possible I returned to my birthplace and took the cheapest room obtainable. Depressed, and worried about my future, I avoided everybody and spent most of the daylight hours in wandering about the groves and lanes which had been the favorite haunts of my childhood.

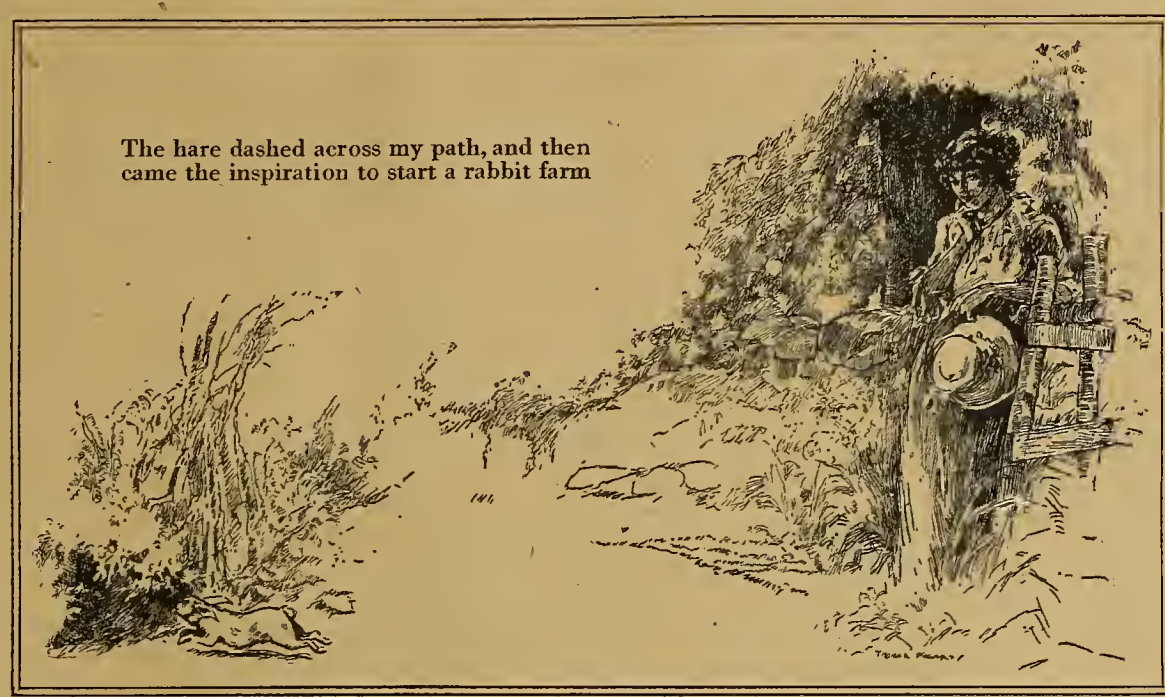
During one of these strolls a hare dashed across my path, and as it whisked out of sight came the inspiration to start a rabbit farm with the remnants of my little fortune. The very idea of having something to do was cheering, and in a much happier state of mind I at once began searching for a suitable place at which to start the enterprise.

Within a week I found, about a mile from this village, a five-acre woodlot which could be rented for one hundred dollars a year. At one end of the enclosure was a cleared space on which stood a little cottage—scarcely more than a shack, in fact—and a shed with an open front. When this shed was floored and boarded in it became a very comfortable home for rabbits which, to be healthy, must be kept in a damp-proof, well-ventilated place instead of in a yard or a cellar. Inside the shed rows of hutches, sloping backward, are placed one above another, the lower ones resting on stands set about a foot above the ground so that they may be thoroughly cleaned underneath.

The does are domiciled in double hutches consisting of a bedroom and a feeding-room, connected by a sliding door so that the animals may be confined in one compartment while the other one is being cleaned. Otherwise the does would either run away or scratch and bite. Their tempers and teeth are both sharp.

The weaned youngsters, however, and the bucks, which are always kept separate from the does, are assigned to single hutches having smoothly planed floors so that whatever water is poured upon them will speedily run off and the wood quickly dry. It is not a difficult or a particularly disagreeable task to clean out hutches if the work is done every day with the aid of a short-handled hoe and broom, after which treatment they should be liberally littered with fresh straw.

It is necessary that the edges of the hutches should be bound with tin, as otherwise the rabbits will soon gnaw them to pieces with their sharp little teeth. The same rule applies to the trough, which should be protected with a few pieces of heavy wire to prevent the rabbits from climbing into it and scratching the greater part of the food out and onto the floor of the hutch.



The hare dashed across my path, and then came the inspiration to start a rabbit farm

To keep a rabbit in health it must be properly fed. Weeds, refuse vegetables, and washy foods are bad for them, and whatever they eat should be of a dry and substantial character, like fresh grain, wheat, baked potatoes, dry cabbage stalks, celery, parsley, and the tips and roots of carrots. They love clover, and will eat any amount of it; but while the dry sort is good for them, too much of the green will make them ill. A little food three times daily is better than a great deal of it at morning or at night, for when a large quantity is provided at one time they are apt to drag a portion of it from the trough and will not eat it after it is soiled.

When six weeks old a rabbit is eatable, but it takes nearly three months properly to fatten one, and from its fourth to its sixth month it is in the perfection of condition for killing. After it is six months old the flesh becomes dry and rather hard, so that I always take care to know the exact age of each animal, and never send an old one to a commission house or to any patron. To this is due in part my success.

As a little girl I had owned specimens of many kinds of rabbits, and knew that the white and yellow sort, with short legs and powerful loins, are the most hardy, easily fattened. They are much in demand at the markets because their delicate flesh, when cooked, greatly resembles that of a turkey.

In addition to these yellow and white rabbits, which I consider the most edible of all, I raise several fancy varieties. One sort, known as the "lop-ear," is much sought after as a pet for children because it is a gentle, affectionate little animal and not liable to disease. Then there is the pure white rabbit with red eyes, which is very much in demand by furriers for its pelt. Solely for the fur market I raise the Turkish breed, which has exceedingly long and beautiful hair, and another variety having a very soft, short, and thick coat that is beautiful when dyed brown or black, and by the fur dealers is called— I nearly revealed a trade secret!

With several hundred rabbits growing and fattening or beautifying, there can be no more sentiment about their fate than there is about a herd of sheep. I do not feel I am selling pets for slaughter.

Please don't imagine that raising rabbits for the markets is mere play. It isn't. But it is easier for me to go the rounds of the hutches early in the morning, at high noon, and late at night than it would be at my age to take a subordinate position. Moreover, my income has doubled each year since I started this farm, and I now own the woodlot and appurtenances.

Sewing With Ease

The Way a Busy Mother of Four Children Makes Their Clothes

By BERTHA BELLOWS STREETER

MOST women have to do their cutting on the kitchen or the dining-room table, and sew in the living-room. Under such circumstances time that could otherwise be spent in the actual work of sewing must be occupied in clearing up in preparation for meals and for the social family evening, when it is trying to everyone to have the house in disorder.

A young mother who has four little ones to sew for has learned a number of ways to save time.

In the first place [she said] I do all the cutting out I can at one time. I begin the first thing after breakfast because then I am liable to make few mistakes. I put a chair across the door and have the children play in the next room. I can't trust the baby out of my sight, and yet she is so little that if she is in the room with me she pulls all the cloth off the table as fast as I lay it on.

I have made it a point never to leave my work without indicating plainly the next thing to be done. If I am cutting, for instance, I pin into place the pattern of the next piece I have to cut before I leave my work, even if I am to be gone but a minute or two.

When sewing on the machine I always put the next piece of work under the presser foot before leaving the room. Then, when I return, I can sit down to that immediately, and while finishing that seam figure out what should come next.

Patterns are always kept separate so no time need be wasted figuring what goes where when it is time to clear the table for dinner. Before beginning the cutting I decide on one chair to hold a nightgown pattern, for instance, with the cloth pieces to be thrown over its back as they are cut out; other chairs are for each separate garment. When I get through it takes only a few minutes to put the patterns away in my pattern file and to fold the pieces for each garment together so there is never any hunting through a pile of cut-out work for any particular piece of cloth of which I am in need.

About every other summer I buy a bolt of my favorite muslin and, as far as possible, make all the undergarments for my family at the same time. This means not only a saving in cloth, because it can be cut to much better advantage when there are small garments to be cut out with large ones, but it saves time in cutting and making. I seldom use the paper pattern more than for cutting out the first garment of a kind; the cloth pieces serve much better for patterns, as most of them stay without pinning and save the time one takes to handle the unwieldy paper pattern carefully to avoid tearing it.

When it comes to running things up on the machine I do all I can to each separate piece while it can be laid flat. I never put a pocket in a nightshirt after the front has been sewed to the back; the work is so bunglesome it takes more time than it would if there was but the front to handle. For the same reason I finish around necks before closing the under-arm seams, when this is possible; and front plackets on nightshirts and shirts are finished before the backs are sewed to the fronts.

When sewing a number of garments I put things through the machine, each two pieces together, without cutting the thread until all are done. I find it most advantageous to make all the garments of a kind together as far as possible after cutting out. If I make a mistake on one I can avoid that same mistake on the others more easily than I could if I did not sew them up until some time afterward.

I have learned to baste with the machine. I use the usual length of stitch, but a loose tension—not very loose, you understand.

Speaking of machine-stitching, I am reminded of many garments I have seen in which the stitch was unnecessarily short. If a good quality of thread is used the stitches could be nearly twice as long without impairing the quality of the work.

As for hand work, I never do in the house what I can do out of doors. Each piece that has such work to be put upon it is laid in my little sewing basket, and when I can get out I take that with me. I keep everything there that I could possibly need—buttonhole scissors, embroidery scissors, coarse thread for buttonholes and sewing on buttons, a paper of needles, and a box of buttons.

I buy white pearl buttons by the box, and try to have them all alike, so I never have to waste time looking for a button of a particular design when making or mending clothes. I find this an economy of money as well as of time because by buying a large quantity of "seconds" I can get them at a ridiculously low price. It is very seldom that I find one of these buttons with a bad eye; most of the imperfections are slight differences in the rim that make no trouble as a rule.

When Fish Begin to Bite

By Harry M. Dean

WHEN springtime comes a-creepin' round,
Just easy-like, an' slow,
I'm out a-diggin' up the ground
For bait with which to go
A-fishin'; an' I'm here to say,
I do not care a mite
For work. I'm sure to run away
When fish begin to bite.

If you have ever been a boy
You'll know just how I feel;
You've known, I hope, the wondrous joy
When one can softly steal
Away from all one has to do
An' sit until the night
Comes creepin' down, a-warnin' you—
When fish begin to bite.

There's some folks who don't like to fish,
Who say they'd rather rest.
Well, I am sure that's not my wish,
For I like fishin' best.
I never get enough, and so
I find it rare delight
To gather up my lines and go
When fish begin to bite.

The Brown Mouse

The Romance of a Farm Hand Who Upset a School District

By HERBERT QUICK

Part Thirteen

JIM has traveled a long road in a few months. When the story opens he is a farm hand, poor and uncouth, but impassioned even then with the conviction that a good education for country children can be acquired through studying the problems of agriculture. Arithmetic, chemistry, geography, manual training, are all embedded in agriculture. When, almost as a practical joke, he is elected district-school teacher he puts his theories to the test. School attendance has never been so large, nor parental disapproval so violent. The parents cry out for "culture" and the abandonment of these every-day problems. Jim's pupils are his army of defense, and they hold back the enemy until Jim's originality begins to make itself felt favorably outside of the county. He is invited to expound his ideas and experiences at Ames. His speech is a triumph, and he receives an invitation to teach another school at a considerably larger salary. This flattering recognition of Jim falls like a bomb into the Woodruff District. His old enemy, Bonner, suggests that he run for county superintendent at home, and another old opponent proposes the consolidation of the district with Jim over it all. Jennie Woodruff, county superintendent, comes down from her high horse of disapproval, and is not averse to resuming the sentimental relationship which used to exist between her and Jim.

XXXIII

Was Jim Crazy?

JIM halted in indecision. He was not expected while the debate was in progress, and therefore regarded himself at this time as somewhat of an intruder. There was no rule of manners or morals, however, forbidding his listening to the proceedings of a public meeting—and, anyhow, he felt rather shiveringly curious about these deliberations. Therefore he listened to the first and last public speech of Old Man Simms.

"Ah ain't no speaker," said Old Man Simms, "but Ah cain't set here an' be quiet an' go home an' face my ole woman an' my boys and gyuhls withouten sayin' a word fo' the best friend any family evah had, Mr. Jim Irwin. [Applause.] Ah owe it to him that Ah've got the right to speak in this meetin' at all. Gentlemen, we-all owe everything to Mr. Jim Irwin! Maybe Ah'll be thought forrard to speak hyah, bein' as I hain't no learnin', and some may think Ah don't pay no taxes; but it will be overlooked, Ah reckon, seein' as how we've took the Blanchard farm, a hundred and sixty acres, for five yeahs, and move in a week from Sat'day. We pay taxes in our rent, Ah reckon, an' howsomever that may be, Ah've come to feel that you-all won't think hard of me if Ah speak what we-uns feel so strong about Mr. Jim Irwin."

Old Man Simms finished this exordium with the rising inflection which denoted a direct question as to his status in the meeting. "Go on!" "You've as good a right as anyone!" "You're all right, old man!" Such exclamations as these came to Jim's ears with scarcely less gratefulness than to those of Old Man Simms, who stammered and went on.

"Ah thank you-all kindly. Gentlemen an' ladies, when Mr. Jim Irwin found us we was scandalous pore, an' we was wuss'n pore—we was low-down." [Cries of "No! No!"] "Yes, we was, becuz what's respectable in the mountings is one thing, whar all the folks is pore, but when a man gits in a new place he's got to lift himse'f up to what folks does where he's come to, or he'll fall to the bottom of what there is in that there community—an' maybe he'll make a place fer himse'f lower'n anybody else. In the mountings we was good people becuz we done the best anyone done; but hyah we was low-down people becuz we hated the people that had mo' learnin', mo' land, mo' money, an' mo' friends than whut we hed. My little gyuhls wasn't respectable in their clothes. My children was igernant and triflin' but Ah was the most triflin' of all. Ah'll leave it to Colonel Woodruff if Ah was good fer a plug of terbacker or a bakin' of flour at any sto' in the county. Was Ah, Colonel? Wasn't Ah perfectly wuthless an' triflin'?"

There was a ripple of laughter, in the midst of which the Colonel's voice was heard saying, "I guess you were, Mr. Simms, I guess you were, but—"

"Thankee!" said Old Man Simms, as if the Colonel had given a really valuable testimonial to his character. "Ah sho was! Thankee kindly! An' now, what am Ah good fer? Cain't Ah git anythin' Ah want at the stores? Cain't Ah git a little money at the bank if Ah got to have it?"

"You're just as good as any man in the district," said the Colonel. "You don't ask for more than you can pay, and you can get all you ask."

"Thankee!" said Mr. Simms gravely. "Whut Ah tell you-all is right, ladies an' gentlemen. An' whut has made the change in we'uns, ladies an' gentlemen? It's the wuk of Mr. Jim Irwin with my boy Raymond, the best boy any man evah hed, an' my gyuhl, Calista, an' Buddy, and Ginnie, an' with me an' my ole woman. He showed us how to git a toe-holt in this new kentry. He teached the children what orto be did by a rentin' farmer in Ioway. He done lifted us up, an' made people of us. He done showed us that you-all is good people, an' not whut we thought you was. Outen whut he learned in school, my boy Raymond an' me made as good crops as we could last summer, an' done right much wuk outside. We got the name of bein' good farmers an' good wukers, an' when Mr. Blanchard moved to town he said he was glad to give us his fine farm for five yeahs. Now see what Mr. Jim Irwin has done for a pack o' outlaws an' outcasts. Instid o' hidin' out from the Hobdays that was laywayin' for us in the mountings, we'll be livin' in a house with two chimneys an' a swimmin' tub made outen crock'ryware. We'll be in debt a whole lot, an' we owe it to Mr. Jim Irwin that we got the credit to git in debt with, an' the courage to go on an' git out agin! [Applause.] Ah could afford to pay Mr. Jim Irwin's salary myse'f, if Ah could. An' there's enough men hyah to-night that say they've been money-he'ped by his teachin' the school to make up mo' than his wages. Let's not let Mr. Jim Irwin go, neighbors! Let's not let him go!"

"Jim," said she, "you need a guardian!"

Jim's heart sank. Surely the case was desperate which could call forth such a forlorn-hope charge as that of Old Man Simms—a performance on Mr. Simms's part which warmed Jim's soul.

"There isn't a man in that meeting," said he to himself as he walked to the schoolhouse door, "possessed of the greatness of spirit of Old Man Simms. If he's a fair sample of the people of the mountains, they are of the stuff of which great nations are made—if they only are given a chance!"

Colonel Woodruff was on his feet as Jim made his way through the crowd about the door.

"Mr. Irwin is here, ladies and gentlemen," said he, "and I move that we hear from him as to what we can do to meet the offer of our friends in Pottawattamie County who have heard of his good work, and want to let him work for them; but before I yield the floor I want to say that this meeting has been worth while just to have been the occasion of our all becoming better acquainted with our friend and neighbor, Mr. Simms. Whatever may have been the lack of understanding on our part, of his qualities, they were all cleared up by that speech of his—the best I have ever heard in this neighborhood."

More applause, in the midst of which Old Man Simms slunk away down in his seat to escape observation. Then the chairman said that if there was no objection they would hear from their well-known citizen, whose growing fame was more remarkable for the fact that it had been gained as a country schoolmaster—he need not add that he referred to Mr. James E. Irwin. More and louder applause.

"Friends and neighbors," said Jim, "you ask me to say to you what I want you to do. I want you to do what you want to do—nothing more nor less. Last year I was glad to be tolerated here; and the only change in the situation lies in the fact that I have another job offered me—unless there has been a change in your feelings toward me and my work. I hope there has been; for I know my work is good now, whereas I only believed it then."

"Sure it is!" shouted Con Bonner from a front seat, thus signalizing that astute wire-puller's definite choice of a place in the band wagon. "Tell us what you want, Jim!"

"What do I want?" asked Jim. "More than anything else, I want such meetings as this—often, and a place to hold them. If I stay in the Woodruff District I want this meeting to effect a permanent organization to work with me. I can't teach this district anything. Nobody can teach anyone anything. All any teacher can do is to direct people's activities in teaching themselves. You are gathered here to decide what you'll do about the small matter of keeping me at work as your hired man. You can't make any legal decision here, but whatever this meeting decides will be law just the same, because a majority of the people of the district are here. Such a meeting as this can decide almost anything. If I'm to be your hired man I want a boss in the shape of a civic organization which will take in every man and woman in the district. Here's the place and now's the time to make that organization—an organization the object of which shall be to put the whole district at school, and to boss me in my work for the whole district."

"Dat sounds good!" cried Haakon Peterson. "Ve'll do dat!"

"Then I want you to work out a building scheme for the school," Jim went on. "We want a place where the girls can learn to cook, keep house, take care of babies, sew, and learn to be wives and mothers. We want a place to which Mrs. Hansen can come to show them how to cure meat,—she's the best hand at that in the county,—where Mrs. Bonner can teach them to make bread and pastry,—she ought to be given a doctor's degree for that,—where Mrs. Woodruff can teach them the cooking of turkeys, Mrs. Peterson the way to give the family a balanced ration, and Mrs. Simms induct them into the mysteries of weaving rag rugs and making jellies and preserves—you can all learn these things from her. There's somebody right in this neighborhood able to teach anything the young people want to learn.

"And I want a physician here once in a while to examine the children as to their health, and a dentist to look after their teeth and teach them how to care for them. Also an oculist to examine their eyes. And when Bettina Hansen comes home from the hospital a trained nurse I want her to have a job as visiting nurse right here in the Woodruff District.

"I want a counting-room for the keeping of the farm accounts and the record of our observations in farming. I want co-operation in letting us have these accounts.

"I want some manual-training equipment for wood-working and metal-working, and a blacksmith and wagon shop in which the boys may learn to shoe horses, repair tools, design buildings, and practice the best agricultural engineering. So I want a blacksmith and a handy man with tools regularly on the job, and he'll more than pay his way. I want some land for actual farming. I want to do work in poultry according to the most modern breeding discoveries, and I want your co-operation in that, and a poultry plant somewhere in the district.

"I want a laboratory in which we can work on seeds, pests, soils, feeds, and the like. For the education of your children must come out of these things.

"I want these things because they are necessary if we are to get the culture out of life which we should get, and nobody gets culture out of any sort of school—they get it out of life, or they don't get it at all.

"So I want you to build as freely for your school as for your cattle and horses and hogs.

"The school I ask for will make each of you more money than the taxes you will pay for it would make if invested in your farm equipment. If you are not convinced of this, don't bother with me any longer. But the money the school will make for you—this new kind of rural school—will be as nothing to the social life which will grow up, a social life which will make necessary an assembly room, which will be the social center because it will be the educational center and the business center of the countryside.

"I want all these things, and more. But I don't expect them all at once. I know that this district is too small to do all of them, and therefore I am going to tell you of another want which will tempt you to think that I am crazy. I want a bigger district—one that will give us the financial strength to carry out the program I have sketched. This may be a presumptuous thing for me to propose, but the whole situation here to-night is presumptuous on my part, I fear. If you think so, let me go; but if you don't, please keep this meeting together in a permanent

EW

organization of grown-up members of the Woodruff School, and by pulling together you can do these things—all of them, and many more—and you'll make the Woodruff District a good place to live in and to die in, and I shall be proud to live and die in it in your service, as the neighborhood hired man!"

As Jim sat down there was a hush in the crowded room as if the people were dazed at his assurance. There was no applause until Jennie Woodruff, now seen by Jim for the first time over next the blackboard, clapped her gloved hands together and started it; then it swept out through the windows in a storm. The dust rose from stamping feet until the kerosene lamps were dimmed by it. And as the noise subsided, Jim saw standing out in front the stooped form of Gilbert Hamm, one of the most prosperous men in the district.

"Mr. Chairman—Ezra Bronson," he roared, "this feller's crazy, an' from the sound of things, you're all as crazy as he is! If this fool scheme of his goes through, my farm's for sale. I'll quit before I'm sold out for taxes."

"Just a minute, Gib!" interposed Colonel Woodruff. "This ain't as dangerous as you think. You don't want us to do all this in fifteen minutes, do you, Jim?"

"Oh, as to that," replied Jim, "I just wanted you to have in your minds what I have in my mind, and unless we can agree to work toward these things there's no use in my staying. But time—that's another matter. Believe with me and I'll work with you."

"Get out of here," said the Colonel to Jim in an undertone, "and leave the rest to your friends."

XXXIV

Jim Confesses His Need

JIM walked out of the room and took the way toward his home. A horse tied to the hitching pole had his blanket underfoot, and Jim replaced it on his back, patting him kindly and talking horse language to him. Then he went up and down the line of teams, readjusting blankets, tying loosened knots, and assuring himself that his neighbors' horses were securely tied and comfortable. He knew horses better than he knew people, he thought. If he could only manage people as he could manage horses—but that would be wrong. The horse did his work as a servant, submissive to the wills of others; the community could never develop anything worth while in its common life until it worked the whole system out for itself. Horse management was despotism; man government must be like the government of a society of wild horses, the result of the common work of the members of the herd.

Two figures emerged from the schoolhouse door, and as he turned toward his home after his pastoral calls on the horses they overtook him. They were the figures of Newton Brouson and the county superintendent of schools.

"We were coming after you," said Jennie.

"Dad wants you back there again," said Newton.

"What for?" inquired Jim.

"You silly boy," said Jennie, "you talked about the good of the schools all the time and never said a word about your own salary! What do you want? They want to know."

"Oh!" exclaimed Jim in the manner of one who suddenly remembers that he has forgotten his umbrella or his pocketknife. "I forgot all about it. I haven't thought about that at all, Jennie."

"Jim," said she, "you need a guardian!"

"I know it, Jennie," said he, "and I know who I want. I want—"

"Please come back," said Jennie, "and tell Papa how much you're going to hold the district up for."

"You run back," said Jim to Newton, "and tell your father that whatever is right in the way of salary will be satisfactory to me. I leave that to the people."

Newton darted off, leaving the schoolmaster standing in the road with the county superintendent.

"I can't go back there!" said Jim.

"I'm proud of you, Jim," said Jennie. "This community has found its master. They can't do all you ask now, nor very soon; but finally they'll do just as you want them to do. And, Jim, I want to say that I've been the biggest little fool in the county!"

[CONTINUED IN NEXT ISSUE]

SEA GULLS help to protect ships against submarines, just as the rhinoceros bird acts as a sentinel for the rhinoceros. The gull sees a floating object quicker than any human eye can do. When a submarine comes to the surface the gulls at once fly to it. Then the warship or merchant vessel's lookout gives the alarm. Gulls are said to have saved some British ships in this manner from German submarines.

E W

Ten-Second Topics

GERMAN children are asked by their home newspapers to eat one slice of bread instead of two for supper so that the soldiers and adult workers may have more bread. The customary supper sandwich weighs one fifth of a pound.

TWENTY-SEVEN counties in Indiana (about one in four) have county agents.

THE Republic of Panama was the last nation to build its pavilion at the Panama-Pacific Exposition.

A FLORIDA reader reports that oranges sold there in March for 5 cents a dozen retail, and grapefruit at 20 cents a dozen.

THE cornfield that is easiest cultivated is the one which was best prepared before planting. Preparation makes corn and saves money.

MASSACHUSETTS while using up 28,400 horses a year grows but 830 colts. The Massachusetts farmers pay out annually $258,210 for horses.

IN SEVEN years a pure-bred Guernsey bull bought by a Michigan breeder raised the net profit of the herd from $13.04 a year per cow to $50.

A FEW hours of thinking as to the arrangement of the barn may be equal to a year of life—and who wants to have his life shortened by a year?

"DON'T try to cover up bad odors with chemicals. Instead, keep everything so clean that there will be no odors to kill," says a Minnesota health expert.

IN WASHINGTON the orchards given clean cultivation suffered more last winter from winter-killing than did trees growing in sod, permanent cover crops, or even in weeds and grass.

WATER GLASS for use in preserving eggs is now sold in a powdered form, and can be dissolved in water as needed. It is said to be much cheaper than the liquid water glass, or silicate of soda.

GRASSHOPPERS in January—that's what the Nebraska Station had. Strawberry plants had been moved from outdoors into greenhouses, and the artificial heat hatched the grasshopper eggs in the soil that clung to the roots.

THE Government has opened at Panama the most powerful wireless telegraph station in the world. From it messages may be sent to all parts of the world. Some of them will have to be relayed through other stations, however.

WHERE stone jars are so high in price as to make their use in preserving eggs too expensive, lengths of sewer pipe may be used by plugging the lower end with wood or cement. Good wooden receptacles may be used if they are carefully cleaned and sterilized by thorough scalding.

H. M. COTTRELL says that as soon as acclimated seed can be produced, the Spanish peanut will become a staple crop for all sections having one hundred or more days between killing frosts, and a rainfall of more than six inches. This includes most of the farming regions of the United States.

WHICH is best in your locality, drilling wheat or broadcasting it? At the North Platte (Nebraska) substation many tests show an average gain of 7.4 bushels an acre by using the grain drill. With wheat worth $1.50, you may figure for yourself how many acres it will take to pay for the drill.

CLODS destroy more crops, in all probability, than frosts. The time to pulverize the clods is before they dry. Disking the land before plowing will help, and disking or harrowing the freshly plowed ground will help still more. Having baked clods kicking about among the growing crops all summer is unprofitable business.

IN THE Northern States one of the best crops for soiling purposes is grown by sowing a mixture of Canada field peas and oats—a bushel and a half of each per acre. Sow early if a hay crop is wanted, and cut when the oats are in the dough. The land may then be well worked up and sown to alfalfa or clover without any nurse crop.

ON MARCH 14th the U. S. D. A. sent out a warning to truck farmers against planting too many early potatoes. The reason given is that the price of Northern-grown potatoes is now a third less than a year ago, and the quantity in the hands of dealers and growers on January 1st was very much greater. A glut of the market may be expected unless the acreage is kept down.

PROSPECTS are good for 10,000 acres of olives being planted in California this year. This will bring the total acreage up to 31,000. No other State raises olives commercially.

FOOT-AND-MOUTH disease will probably not interfere with live-stock exhibitions at the Panama-Pacific Exposition. Cattle competitions do not begin till October 18th; sheep and swine, November 3d. All quarantines are expected to be raised long before then.

Are You a Weed?

By Abbie Graham

THE difference between a weed and a plant is that the weed has never found its place and is of no service to the world, while the plant has found its place and is of service.

Haven't you seen girls that seem never to have found their place? Some girls grow up to be weeds because they think only of themselves: they have no desire to serve.

God has not only given us our lives, but He has planned them too. He has a place for you and me. I believed that fully when I left college, and then for a while I almost lost faith in it because I found so many weeds, so many misplaced plants. I began to be afraid that the weeds could never have had a purpose.

It is much easier to stay in the Land of the Weeds. Between this land and the Land of the Plants there rush the waters of a river that "overfloweth all his banks." God has promised to roll back the waters for us on condition that we trust Him enough to step down into the water *before* the waters are rolled back. People are waiting in the Land of the Weeds for the waters to be rolled back before *they step into it*. That is not God's way; His way is the faith way—"All things are possible to him that believeth."

I never realized what it meant till one spring two years ago when there opened up before me two ways. One was very definite, very clear, very certain. I could see it stretching out before me, and I could see that it was leading to wonderful opportunities. I could see only a little of the other way. I was not certain that it was a road at all, but God seemed to be asking me to trust in Him and together we would make a path. I had to refuse the definite way a month before there was any certainty about the other. In those weeks of suspense between the stepping down into the water and its rolling back I learned why so many people never find their right place.

It has taught me not to judge them harshly. Sometimes the reason is lack of courage, due to lack of health; again it may be because others have failed to teach us the different places of service. There are many reasons why there are weeds. If each of us could find the path that leads directly to the Master of the Fields, and learn from Him our place of service, there would be no risk of growing in the wrong place. The path may be almost hidden by weeds who once started to the Master too. They will not try to stop you, but they will just laugh and say, "Oh, yes, I believed it all too when I was your age! I thought there was a place for me, but I could not find it and I decided this was good enough."

If you would find your place you had better take the word "discouraged" out of your vocabulary at the very beginning.

I have a friend who is trying to find the path. She has failed to find it before. Sometimes I am afraid that she doubts there being a path, or there being any One at the end of the path who is interested in her, just "Anne." "God seems so far away, so unreal. How can I really know Him?" This is the big question that she is bringing me. I believe she answered her own question in a letter this week: "To-night I feel as if I could never be happy, never find Christ as a friend, unless I am doing some vital work for Him. I've had the feeling before, but it doesn't last."

"It doesn't last" because she has seen all about her half-hearted, indifferent people—fig trees that claim to have found their field of service and yet have nothing but leaves with which to satisfy hungry people. She is tired of the sham of it all. Something "vital" is what she wants. She will find it too; and when she does she will bring a wonderful service to the need of the world.

There is just one thing more. If you are in the wrong place you had better find the right place while you are young. You do not wait till your tomatoes are grown to transplant them. But now you and I have life before us—one life. We can make it what we will. The fields stretching out before us are attractive and alluring. We are eager to get into them. The Master of the Fields is needing us out there. He has a wonderful plant place for you and me.

Yet He has left it with us to choose whether we shall live our lives as weeds or plants.

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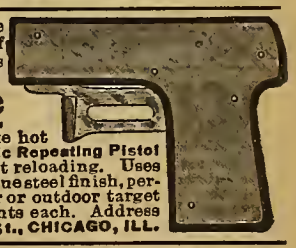

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Rhubarb Recipes

By HELEN A. SYMAN

Rhubarb Jam—Cut rhubarb in quite small pieces, cook in a very little water until tender, mash, add three-fourths pound of sugar to a pound of fruit, return to fire, cook one-half hour. The jam should be thick and smooth when finished.

Rhubarb Conserve—One quart of rhubarb cut in pieces, one quart of sugar, one-half pound of raisins, three oranges sliced thin, one lemon, rejecting the tough white skin and using the thin yellow rind, and one cupful of nut meats. Add the sugar to the rhubarb, and let it stand overnight. In the morning add the other ingredients, excepting nuts, which should be added just before taking from the fire. Boil until thick, about one and one-half hours.

Rhubarb Blanc-Mange—Two pounds of rhubarb cut up, three pints of water; cook about twenty minutes, strain, and add one cupful of sugar. Add a little more than one-half cupful of sago, and cook twenty minutes. Put into molds, cool, and set on ice.

Rhubarb Cottage Pudding—Mix one quart of flour with four teaspoonfuls of baking powder and a small teaspoonful of salt. Add milk enough to make a stiff batter. Into buttered custard cups put one spoonful of batter, then a spoonful of prepared rhubarb sauce, and cover with another spoonful of batter. Steam one-half hour, and serve hot with cream and sugar.

Rhubarb Pie—Pour boiling water over two teacupfuls of chopped rhubarb; drain off the water after five minutes. Mix with the rhubarb a teacupful of sugar, yolk of one egg, a piece of butter, and a tablespoonful of flour, moistening all with three tablespoonfuls of water. Bake with lower crust only, and make a meringue with the white of an egg and three tablespoonfuls of sugar. Spread this on the pie and brown slightly in the oven.

Rhubarb Pie—One cupful of chopped rhubarb, one cupful of chopped raisins, juice of one lemon, one egg, one cupful of sugar, one tablespoonful of butter, spices to suit taste. This is enough filling for two pies. Make a rich paste and bake with two crusts.

Rhubarb Pudding — Wash and cut a bunch of rhubarb into small pieces. Cover the bottom of a baking dish with buttered slices of bread, then with a layer of rhubarb, sprinkle with sugar, then another layer of bread, and so on until the dish is full. Cover, and steam in the oven for three quarters of an hour. Take off the cover, and let brown for ten minutes. Serve with hot sauce.

Rhubarb Marmalade—Cook ten cupfuls each of rhubarb and sugar with the juice and rind of five lemons, for three or four hours. Add two cupfuls of chopped walnuts and two teaspoonfuls of ginger extract, and cook ten minutes longer. Then pour into jars or jelly glasses, and seal.

The First Birthday

By Dr. L. K. Hirshberg

BY THE time the baby is a year old the diet should begin to include fruit juices and the whites of eggs. Begin with a wineglassful of chicken broth or bouillon, fed from a spoon; and as these things are increased, gradually decrease the amount of bottle food.

Soon after it turns its first year the child should learn to drink from a small cup. After that its meals may be reduced to five a day, with an occasional drink of orange juice and plenty of water.

The first meal should consist chiefly of modified milk to which half as much strained oatmeal or farina has been added.

The second meal, in the middle of the morning, may be a repetition of the first.

Early in the afternoon a gill of chicken broth, or half as much beef juice, may be given, and this may be varied every few days, with the white of an egg boiled, say, for a minute.

The two remaining meals should have milk as their mainstay.

After a month or so of such diet, if the baby is in good health, its mid-morning meal may begin to include dry toast, thin oatmeal, and other cereals; and its afternoon dinner may include a whole egg, soft-boiled or poached. Fruits should be given freely, but it is always best to have them well cooked.

Orderly Without Effort

By Edith C. Salisbury

THE kitchen table should have a place near the sink, especially if the latter is not fitted with a draining board; but the table should be high enough for the worker, and should have casters so it may be easily moved from place to place if necessary.

Some housekeepers prefer, instead of the regulation kitchen table, a wide fixed shelf above which are racks and hooks to hold all the kitchen cutlery—knives, forks, spoons, egg beaters, graters, corkscrew, skimmer, funnel, and other small tools used in cooking.

A special hook, or a special place on the rack for each article, together with the habit of keeping everything in its place, encourages system in the work and keeps the room in order without the effort of clearing away disorder.

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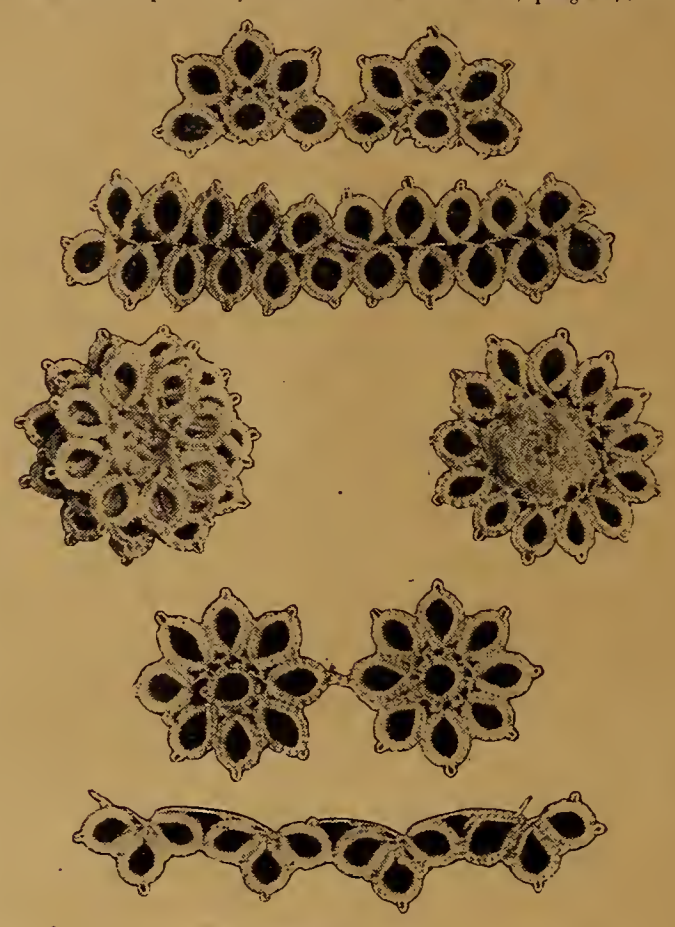


Cut Flowers for Profit

By G. O. Thornton

IT FREQUENTLY happens that small greenhouse operators who have been growing vegetable plants for a local trade, gradually turn their attention and efforts to flowering plants and perhaps cut flowers, as they find in them far better returns for their labors.

Some of them are now growing geraniums, salvia splendens, carnations, verbenas, asters, pansies, etc., for plants; or asters, sweet peas, carnations, etc., for cut flowers.

In two instances friends of mine make a sort of specialty of violets. They started with small houses, but soon enlarged.

Violets are said to be easily grown; but, like everything else worth having, they need attention and study and favorable conditions. The house must have a good system of ventilation so that the summer temperature can be kept down to the minimum, and as much sun exposure as possible during winter. The winter temperature should be held as near as possible to 45 to 50 degrees at night, and 50 to 60 in daytime. Solid beds are preferable to benches unless the latter are made of concrete or other unperishable material.

Any good well-enriched soil may produce good violets, but nothing is better than a compost made of sods shaved 3 or 4 inches thick from a strong sandy loam piled up in alternate layers with cow manure and left out until well rotted, then chopped down and worked over. A small quantity of bone meal, thoroughly mixed in with this, will be of benefit.

The real lover of flowers will succeed where the person who is only after the dollar will fail.

To Grow Ferns

By EMILY R. SUGDEN

TWO especially necessary conditions for the healthy growth of a maidenhair fern are moisture and a calm atmosphere. An even temperature is desirable, but seems comparatively of little importance. A draft is deadly, and probably that is the reason why ferns seldom flourish that are set in a dish for a dining-table centerpiece where there is a continual circulation of air all about them. The old fashion of placing a glass dome over ferns grown in the house was undoubtedly conducive to an equable atmosphere, but it was neither decorative nor necessary, for with understanding care they may be grown without cover in any room.

The fern should be left undisturbed in the earth and common porous crock in which it comes from the florist, but the crock should be set into a glazed jardinière so large that there will be an inch space all around it, thus forming an air chamber that will prevent too rapid evaporation of moisture from the earth. To perfect the drainage there should be two or three layers of fine gravel in the bottom of the jardinière, as the crock should never stand in water. Place it on a stand next the wall, preferably in the corner most remote from windows and doors, for a strong light is not required, and better even than a jardinière on a table is one of the new wall vases which will remain in exactly the right position all of the time.

The earth should be thoroughly soaked with water once a week, and every morning the fronds should be sprayed with water from a fine sprayer. If the air in the room is very dry, as it sometimes is when heated by hot air, it may be necessary to soak the earth twice a week, and spray morning and night, but it should be done at regular intervals, for a fern, as well as most other plants, is as sensitive as a child in regard to the quantity and regularity of its nourishment.

Experience has proved that a fern responds delightfully to this treatment, and the result tempts one to paraphrase Izaak Walton and say with due reverence: "Doubtlessly God might have made a more beautiful plant than the maidenhair fern, but doubtlessly God never did."

Don'ts About Sinks

By Edith C. Salisbury

DO NOT persuade yourself that an iron sink will be good enough for you. It may cost a little less at first, but the time and effort it will demand from you are worth more than many dollars, and in the end the sink will not look well.

If it is clean it will rust easily; if it looks smooth it is pretty sure to be greasy. Better save yourself work and worry from the start and have a porcelain or enameled iron or soapstone sink when you are equipping your kitchen. If it happens that you already have been struggling for years to keep an iron sink clean and attractive you will be wise to invest in a different kind at the first opportunity. If the opportunity does not offer soon enough, economize in some other quarter and force the opportunity.

Nothing but water and drain pipes should be under the sink, and this space should be exposed, making it easy to keep clean. Beneath the sink is not a suitable place for an enclosed cupboard in which to keep kettles and saucepans.

The office of the kitchen sink is sometimes grossly abused and misunderstood, and instead of being distinctly reserved for the convenience of the housekeeper it is used as a place to wash faces and hands.

Take away the washbasins and toothbrushes from the room in which food is being prepared for the table.

Don't even have a mirror in the kitchen if it tempts you to arrange your hair over the sink.

If the washroom or bathroom does not adjoin the kitchen, a washbasin and towel must be furnished for the person who does the cooking, but these should not be kept near the sink, nor supplied for general use.

THE amusement section of the Panama-Pacific Exposition is called The Zone. Of the 7,000 applications by amusement companies, only 100 were granted.

E

Do You Want This Pony?

I am the Pony Man of *Farm and Fireside* and shall give "Major," the pony shown in the above picture, to some boy or girl who joins my Pony Club. I have already given away over 100 Shetland Ponies to boys and girls all over the United States, and I am going to give away two more ponies in a very little while. Please send me your name and address right away and I shall tell you all about the Pony Club and just how to win "Major" or "Dandy" for your very own without spending a single cent of your own money.

"MAJOR"—the Finest of all Shetland Ponies

Uncle Dave, the Pony Man

Boys! Girls! I shall give "Major" to someone who Cuts Out this Coupon

It seems too good to be true—but just clip the coupon below, first writing your name and address on the coupon, and mail it to me. You will be surprised when you learn how easy it is to own a Shetland Pony. "Major" is a beauty. Think what fun to drive to school! Think what good times playing Indian! "Major" loves children and is the best pet in the world.

1,000 Votes For You

Here is another surprise! To every boy or girl who cuts out the below coupon, I am going to give 1,000 Votes which will count toward "Major" and "Dandy." Think what a big start that will give you! Are you going to be one of the lucky ones to get the 1,000 votes?

Pony-Buggy and Harness

When you win "Major" you get a pony-buggy and harness, both of which will be brand-new and mighty classy. If you win "Dandy" I shall send you a saddle and bridle. Surely you can win one of the ponies. You have two chances to win.

Prizes For All

Besides "Major" and his complete outfit and "Dandy" and his outfit, 500 other elegant prizes and thousands of dollars in cash will be distributed to lucky members of the Pony Club. You are guaranteed a prize just as soon as you become an Honor Roll Member.

MAIL THIS COUPON TO-DAY

Pony Man, *Farm and Fireside* F-4
Springfield, Ohio

I want a Shetland Pony, so please send me 1,000 Votes and tell me how to win "Major."

Name.....R.D.....

P.O.....State.....

EW

Cool Dresses for Summer

Miss Gould Offers Some Good Dresses for Grown-ups and Several Pretty Designs for Little People

No. 2770 No. 2771 No. 2772

No. 2757
No. 2758

THESE patterns are well cut and easy to use. In order that they may give entire satisfaction be sure to take your measurements carefully.

Patterns for any of the designs shown on this page may be obtained by sending number of pattern, size required, and ten cents in stamps to the following pattern depots: Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City, or Pattern Department, FARM AND FIRESIDE, Springfield, Ohio.

No. 2757
No. 2758

No 2710

No. 2757—Long-Sleeve Blouse with Detachable Peplum

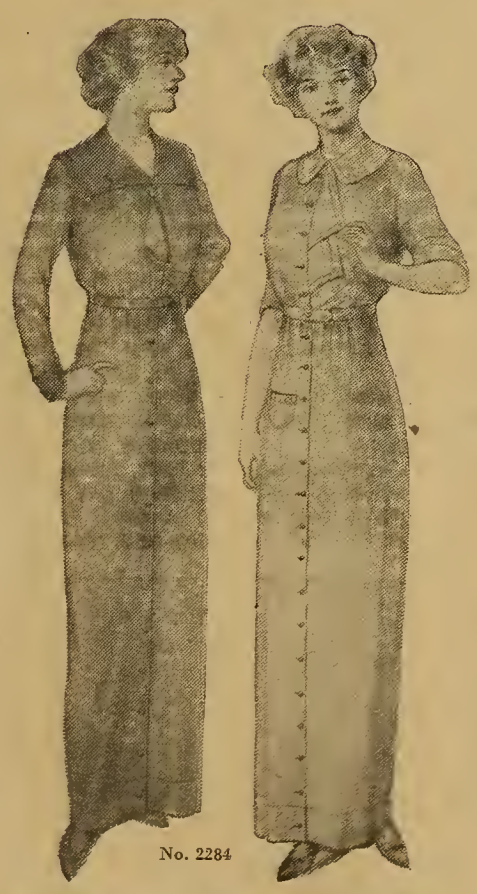
34 to 40 bust. Material required for 36-inch bust, three and three-fourth yards of twenty-seven-inch, or two and three-eighths yards of forty-inch, three-eighths yard of contrasting, and one-fourth yard for belt and trimmings. The price of this pattern is ten cents

No. 2758—Circular Skirt with Gathered Flounces

24 to 30 waist. Material for 24-inch waist, five yards of twenty-seven-inch, or four and one-eighth yards of forty-inch, with one yard of forty-inch material for flounces. Width, three and one-fourth yards. Hip in 24-inch waist, 38 inches. Price of pattern is ten cents

No. 2770—Girl's Coat with Long-Shouldered Yoke

1 to 8 years. Material for 4 years, one and three-fourths yards of thirty-six-inch material, or one yard of fifty-four-inch material, with one-fourth yard of contrasting material. The pattern is ten cents



No. 2284

No. 2710—Panel Dress with Yoke Skirt

34 to 46 bust. Material for 36-inch bust, five and one-half yards of thirty-six-inch, or four and one-fourth yards of fifty-four-inch, one-half yard of lace and three-fourths yard of velvet. Width, two and one-half yards. Pattern, ten cents

No. 2771—Girl's Low-Neck Tucked Dress

2 to 8 years. Material for 6 years, one and seven-eighths yards of forty-inch, one and three-fourths yards of 8-inch ribbon for the sash and five yards of insertion. The price of this pattern is ten cents

No. 2772—Girl's High-Waisted Dress with Kimono Sleeves

1 to 6 years. Quantity of material required for 4 years, two and one-eighth yards of thirty-six-inch material, or one and seven-eighths yards of forty-inch, with three eighths of a yard of contrasting material for trimmings. This is an extremely practical design for the real little girl's summer dress. It may be made of gingham, chambray or any other inexpensive wash material. The pattern is ten cents

No. 2284—Belted Wrapper in Two Styles

32 to 46 bust. Material required for 36-inch bust, five yards of thirty-six-inch material, with three-fourths yard of twenty-seven-inch material for collar and cuffs. Width at bottom, two yards. The price of this pattern is ten cents

No. 2284

No. 2772

No. 2771

No. 2770

No. 2710

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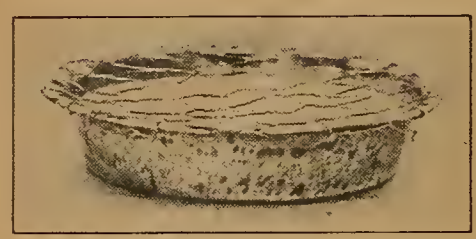
Victory Over Two Plagues

How "Safety First" on Every Farm Means Better Business



Sour milk can be supplied in this way

Save the Chicks

By Leslie E. Card

WHAT a lot we have heard for years about "white diarrhea" as death to chicks!

How much of this has been just "hot air"? We all wish it were "hot air"

Sour milk saved these chicks

only, but the dead chicks have proved too often that here is a grave danger.

White diarrhea trouble is caused by a germ. The liver and bowels are affected.

White diarrhea is killing these

The germs may be in the eggs used for hatching, from the incubator, the nest, brooder, coop, or droppings of sick chicks. All except the strongest soon die.

Pullets that get well and grow up will have their egg-producing organs infected with the germs, and will carry the disease to the chicks hatched from their eggs and hand down the disease from generation to generation.

Whether our hens are white diarrhea "carriers" is important. The weeding out of these "carriers" is now made possible by a blood test which is made as follows:

A traveling agent of the experiment station draws off three or four small thimblefuls of blood from an opening in the large vein in the wing. The cut is made beyond the second joint of the wing.

The blood drops into a glass tube and is sent to a bacteriologist who tests it. Thousands of these tests are being made at the Connecticut Experiment Station to make sure that breeding pens are free from this disease.

A charge of 5 cents a hen is made by the station for each bird tested. This charge includes a sealed, numbered leg-band which is put on for future reference when the blood is taken.

The Test is Reliable

A great many examinations have shown that this test is very reliable if properly made.

The Connecticut Station authorities believe it requires men trained in the work to take the blood samples correctly and forward them in good condition to the laboratory to be tested.

The Massachusetts Agricultural College has asked from its legislature a special appropriation for $5,000 to start this same work in that State. Other New England and North Atlantic States are carefully watching the work being done by Connecticut for eradicating the white diarrhea disease.

It has been found that a diet of sour milk will save many of the diseased chicks. Begin by dipping the chicks' bills in the sour milk several times when first hatched and before any food is given. Some poultrymen squirt the milk into the chick's mouth with a medicine dropper. From the start the sour milk is kept before the chicks all the time.

The sour milk largely takes the place of other forms of animal food. The following suggestions are important: Milk is quickly digested and easily assimilated. It is well to use caution in feeding milk or the chicks are likely to be literally grown off their feet. Milk soured for from twenty-four to forty-eight hours at ordinary room temperature gives best results. A little of the previous day's sour milk is a good "starter" to mix in.

At the Connecticut Experiment Station small shallow glazed or enameled pans are used. A piece of coarse mesh-wire screen over the pan keeps the chicks out. All pans and pails should be kept thoroughly cleansed and scalded, so that all the milk is clean. Lack of attention to this is likely to result in bowel trouble.

"Foot and Mouth"

By A. B. Marsh

THE control of foot-and-mouth disease is now assured. The U. S. Live Stock Sanitary Association has just issued a statement showing that in the twenty States directly affected or exposed no new cases have lately broken out. In Michigan, where the epidemic originated, no new infected areas have been recorded since January 7th.

In Indiana no new cases have appeared since the end of January. Illinois has had 740 herds slaughtered, and two more remained to be slaughtered when the report was made out on March 10th. That will clean up the disease there. New York State still has a few herds to be destroyed, but the infection is no longer spreading. It is gratifying to note that the principal dairy districts have not been affected.

Pennsylvania had 737 infected premises, of which all but six had been disinfected on March 13th, when State Veterinarian Marshall made his report. In Ohio, which suffered very severely, the last infected herd was killed March 1st.

One correspondent writes the following account of how the animals were slaughtered in his locality:

"The State of Ohio recently paid one dairyman here the sum of $5,000 for 78 foot-and-mouth cows to be used as targets for the official sharpshooter.

"As customary, these cattle were driven into a long deep trench where they were shot down, covered with quicklime, and then buried under six feet of earth. Some of the cattle showed visible signs of the dreaded disease, but others, fine big animals, looked perfectly healthy and in prime condition.

"They, however, had been in bad company, and so were doomed to die like the rest.

"Just how cattle around Cincinnati became affected with the dreaded disease cannot be ascertained, for it was thought that not the slightest trace of the disease had penetrated into the section."

A diseased cow—showing one way the animal is affected

The sharpshooter with his rifle kills the diseased and their associates

My Ideas on the Use of Potato Fertilizer

By A. H. DeGRAFF

MANY people strongly oppose the use of commercial fertilizers, and owing to the influence of one of these, I did not use any for three years after I started farming. Finally I tried fertilizer on potatoes, and have continued doing so at the rate of one-half ton to the acre ever since.

I use a high-grade home mixture which costs (when the ingredients are bought by the carload) about $14 an acre for the early potatoes, and $12 for the late ones. The results have been good.

Once the fertilizer hopper became empty before the end of the row was reached, and the smaller yield there showed that I was making no mistake in continuing its use.

Last year, however, I had two of my best tests.

The first was on a piece of rich loam planted to early potatoes. A nail got into the distributor, and temporarily put the works "on the bum." I either had to leave the piece or put it in without the fertilizer. I did the latter.

Where I Got Big Yields

The unfertilized part of the piece was the richest part, and was situated next to a tile, which is an especially favorable location. In spite of these circumstances the yield there was but little more than half that on the fertilized portion, and the quality was also poorer.

Both plots suffered some from dry weather, but the comparative yields were 90 and 50 bushels of marketable potatoes to the acre.

In another place I had a test which was even more striking. In planting my seed plot (with seed that had been already bred up one year) the fertilizer was allowed to run out about halfway up the first row, so that half of it had none. These potatoes were on rented land which for many years had received no manure or fertilizer. When the potatoes came up I could see the difference between the unfertilized row and the rest, and before long I could see the dividing line from a distance of half a mile.

In the photograph the fertilized potatoes are at the left, and the unfertilized in the center and at the right.

At digging time, as a test, I picked up one bushel on the unfertilized row, and then picked up an equal length of one of the others, getting two bushels and a peck. The yield on the fertilized plot was 180 bushels an acre, and on the other only 80 bushels. This is not all, however. The potatoes were planted 14 inches apart in the row. This causes the potatoes to run more even in size than when they are in hills. On the unfertilized row the tubers ran even in size; but, as the yield was small, all of the potatoes were quite small.

The fertilizer used on these potatoes, contained, for the early ones, nitrogen 4 per cent, phosphoric acid 8 per cent, and potash 5 per cent. On the late ones I use a 3-8-5 mixture. Of the nitrogen, 1 per cent was from dried blood, and the rest from nitrate of soda. The potash was in the form of muriate.

Fertilized potatoes at the left yielded 180 bushels an acre. Those in center and at right were unfertilized and yielded 80 bushels

I mix my own fertilizer, at a saving of $10 a ton, with the added advantage that I do not have to haul home any filler, and that I know the ingredients are of the best quality.

I use 4 per cent of nitrogen on my early potatoes because they must make a rapid growth early in the season, when nitrification is taking place very slowly. Also, my potatoes follow corn, which is rather exhaustive of nitrogen. The late ones make their growth later in the season, and hence need only 3 per cent nitrogen.

Phosphoric acid is of the first importance on most soils in the United States, hence I use 8 per cent of this. It is furnished by 16 per cent acid phosphate.

In New York State tests, potash has appeared to be of less importance for potatoes than was formerly believed. As you can safely use the muriate up to 5 per cent with applications of 1,000 pounds an acre, that is what I use. The sulphate is supposed to give higher quality potatoes, but I have tried both and never could see any difference.

Fertilize the Money Crop

When raising a money crop like potatoes, I think that it pays best to fertilize for the needs of the crop.

The early potatoes brought 90 cents and $1 a bushel, and the gross gain from the use of fertilizer was about $38. Deducting $14 for the fertilizer, we have a remainder of $24 an acre, less the increased cost of harvesting and selling the larger crop, for our net gain. The net profit was about $20 an acre. For the late potatoes the gross gain was $68 an acre, the increase, less cost of fertilizer, $56; net profit about $50 an acre.

E-W

FARM and FIRESIDE

EVERY OTHER WEEK - - THE NATIONAL FARM PAPER

SATURDAY, MAY 8, 1915 *5 CENTS A COPY*

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The Editor's Letter

At Coolfont Farm, April 30, 1915

MRS. NOTA B. MOORE of Oklahoma is a widow. She has taken notice of the tragedies in the lives of women whose task it has been to be father and mother to a brood of children, and has some questionings as to whether or not the State is doing quite the right thing with reference to such matters.

"A soldier gets his pension," says Mrs. Moore, "and perhaps is able to work; but none of us widows would care to try for anything like that, as it would seem like alms, and you men can't imagine our horror of that word."

Is it "alms" when the State pays a widow a pension which enables her to keep her children and make a home for them? I think not. Thousands and thousands of the widows of soldiers get pensions because their husbands served in the army, and perhaps were in just as good health as if they had stayed at home. Thousands and thousands of soldiers receive pensions whether they need the money or not. The veterans of the Spanish War seem to be back of a bill for the payment of pensions to widows of the soldiers of that war in cases in which no proof is made that the husband lost either his life or his health in the service. I think the case of the widow who has brought children into the world through sufferings worse than those of the soldier on the field of battle, and who needs aid from the State to help her make a home for them, is far more deserving.

Is this "alms"? Ask the Emperor of Germany if he thinks the women who have borne his soldiers are not entitled to recognition among those who deserve well of the State. And in a republic we need strong, well-nourished, well-educated citizens more than in an empire, for our citizens rule the country. A State had far better see to it that the widow's children are given a good home under their mother's nurture, than to let things drift. The policy of drift means that in many cases the widow's inability to keep the family together under proper conditions will result in inferior citizens for the next generations.

"I've studied this deeply," says Mrs. Moore, "and it seems to me there ought to be a law to prohibit some young people from marrying. Now my little bunch of six and myself were left with very little before I was thirty years old, and the struggle cost me much in health and my children much in education. Now if there had been a law that said to me when I went to marry, 'Young lady, how much do you know?' I should have been obliged to answer, 'Nothing but cotton farming!' Before a girl is allowed to marry she should have a diploma in housewifery and mothering."

Laws Against Marriage

Oh, I hardly think so! This matter of doing everything by a law is getting too prevalent. Probably Mrs. Moore's diploma, if she had possessed one, would not have disclosed any lurking ability on her part to take care of six fatherless children when left facing life alone. There's one thing a diploma never shows—character. Character is what counts in all the relations of life. There is good character-building in the struggles of a united family.

Laws against marriage have never been found to work very well. There are portions of the world in which the conditions are such as to make it very difficult for the young people to marry according to the legal and ecclesiastical forms. Mrs. Moore's idea seems to be that when these obstacles are encountered the young people are halted by them; but it is not so. They simply ignore them as soon as there are enough couples held back by them to form a class and generate a sense of injustice. When such a status is reached they form irregular or "common-law" marriages, and the situation so far as children are concerned is just what it would have been if there had been no obstacles at all.

The way out is not by way of laws restricting marriage except in clear cases (which must not be very numerous or the prohibition will not work), but in education. If Mrs. Moore had lived in a time and place in which the right sort of schools had been maintained, she would not have needed a certificate in housewifery and mothering to prove her capacity, although as to these things, I suspect, she is fairly capable of conferring diplomas.

And this brings me to a letter from a reader very far from Oklahoma—Mrs. W. F. Brown of Massachusetts.

"I want to tell you," says Mrs. Brown, "how much we think of reading 'The Brown Mouse' in your splendid paper. The story voices the ideas of the people we know here, but they say, 'How can we get such schools started?' We think it will take time even to make a noticeable beginning. Our teachers are many of them pale, slender little girls who know little else than schoolbook knowledge. We have a school board who want the children taught things which will enable them to make easy livings. One board member is from the city and has no real understanding of farm life."

Jim Irwin and Our Readers

Nothing has ever pleased me more than the flood of letters praising "The Brown Mouse." We have always had hard work to find stories which seemed really to belong in FARM AND FIRESIDE. Having written and published several books of fiction, I made up my mind that this time I would attempt the task myself—and the story of Jim Irwin is the result. I beg to thank the readers of the paper for their generous praise, and still more for their understanding of the story. When it is published as a book I do not expect to find a single critic on the staffs of the city magazines and newspapers who will understand the inner meanings of "The Brown Mouse" as accurately, and estimate its value as justly, as have the readers of this paper.

The starting of the new kind of rural school has not been found hard. All that has been necessary is a leader. The pale, anemic, dyspeptic little girl of whom Mrs. Brown speaks is doing a pale, anemic, dyspeptic sort of work.

The new kind of rural school requires a new kind of rural teacher—that is quite true; but that little pale girl might be of the new kind if she had a chance. Miss Jessie Field made over the schools of Page County, Iowa, not by getting a new corps of teachers, but by making over the teachers she had.

The same thing can be done in Mrs. Brown's district, in Mrs. Moore's district, and in every school district in the United States—and it will be done!

Herbert Quick

Always in Good Humor

MOTIVE WAS GOOD

"You admit you are guilty, then," thundered the judge.

"Ah do, Jedge. Ah's guilty. Ah stole dem pants. But, your honah, dere ain't no sin when de motive am good. Ah stole dem pants to get baptized in."—N. Y. Times.

EVEN SO

A boy who was spending his vacation in the country wrote home the following expressive letter:

"We are having a dandy time. We dug a woodchuck out of his hole yesterday; it was a skunk. We slept in the barn last night."—Harper's.

NO DOUBT OF IT

One of the big railroad lines has a regular form for reporting accidents to animals on its line. Recently a cow was killed and the track foreman drew up the report. In answer to the question, "Disposition of carcass?" he wrote: "Kind and gentle."—De Laval Monthly.

A BAD SPELL IN BUSINESS

"Business here," dictated the drummer to the hotel stenographer, "is on the blink, but I have reason to hope it will be better to-morrow in Dowagiac—"

"How do you spell that?" asked the stenographer.

"Why, you're supposed to do the spelling—"

"Well, I can't spell that name!"

"All right! Then I'll go to Niles!"

THE TOKEN

COUNTRY HOUSE HOST (to arriving guest)—H'lo, Jack! Drove over with Miss Cuddles, eh? Ripping sleighing, but cold going, ain't it?

JACK (cheerfully)—Oh, I didn't notice it.

HOST—All right, then. Come in and thaw that earring out of your mustache.—Judge.

"Please read me the poem you're reading, Mother?" begged a little boy sweetly.

"But I'm afraid it's too old for you, dear," his mother answered. "I'm afraid you wouldn't be able to understand it."

"Oh, yes I would," was the calm answer, "so long as you didn't try to explain."

RIGHT HERE

He was new to a certain railway run in Wales—this guard. Came a station which rejoiced in the appalling name Llanfairfechnapwllgyllgogerych.

For a few minutes he stood looking at the signboard in mute helplessness. Then, pointing to the board, and waving his other arm toward the carriages, he bellowed: "If there's anybody there for here, this is it."—Evening Post.

SLIM PICKING

Robbie's grandfather was a veteran of the Civil War, and in talking to his little grandson about the battles he said:

"Nearly a generation and a half ago, Robbie, my head was grazed by a bullet in the battle of Chickamauga."

Robbie looked at the bald pate of his grandsire attentively and said: "Not much grazing there now, is there?"—N. Y. Times.

INCONSISTENT

"Then you don't think I practice what I preach, eh?" queried the minister in talking with one of the deacons at a meeting.

"No, sir; I don't," replied the deacon. "You've been preachin' on the subject of resignation for two years, an' ye haven't resigned yet."—N. Y. Times.

ONE ADVANTAGE

HOKUS—I would rather be good than be great.

POKUS—Well, it's easier. There isn't so much competition.

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Farming by Electricity

How Some Farms Are Using This Power With Economy

By M. G. FRANKLIN

Makes Work Easier

NOT all of us use electricity on our farms, but all of us would like to. Some of us should not try to, but more of us could use this form of power just as well as not. We fail to realize the economy of it. Electricity is not difficult to use. It makes work and worry less. If power lines extend into your district, perhaps you may be able to use them to your own advantage. Take into consideration all of the costs. Then act or not, as you think best.—Editor

THE American farmer is hiring a new farm hand—one who never oversleeps in the morning, who never borrows the best buggy to take his girl riding in, who never grumbles at the food nor eats the boss out of house and home.

This new farm hand is the electric motor.

That the farmer is hiring this new hand in large numbers is shown by the fact that one power company in California has 7,000 farmers on its lines, another 4,000; while in Colorado, Kansas, Washington, Oregon, and Utah thousands of farmers are patrons of the electric companies. In the Central States—especially in Illinois, Iowa, Indiana, Wisconsin, and Minnesota—the farmer has become a large user of electricity for both light and power.

What has brought this about in this way?

First, the steady increase in farm wages, estimated at thirty-five per cent in the last twenty years.

Second, the discovery that one third of our immense grain and hay crops is used as feed for horses, who must eat 365 days a year, and who work only three hours a day on the average.

Third, the fact that while within the last twenty years farm wages have increased 35 per cent and the cost of living has increased 30 per cent, the cost of electricity has decreased 88 per cent.

Fourth, the discovery that there are no less than 125 different farm operations in which electricity can be used.

To begin with, there is the lighting.

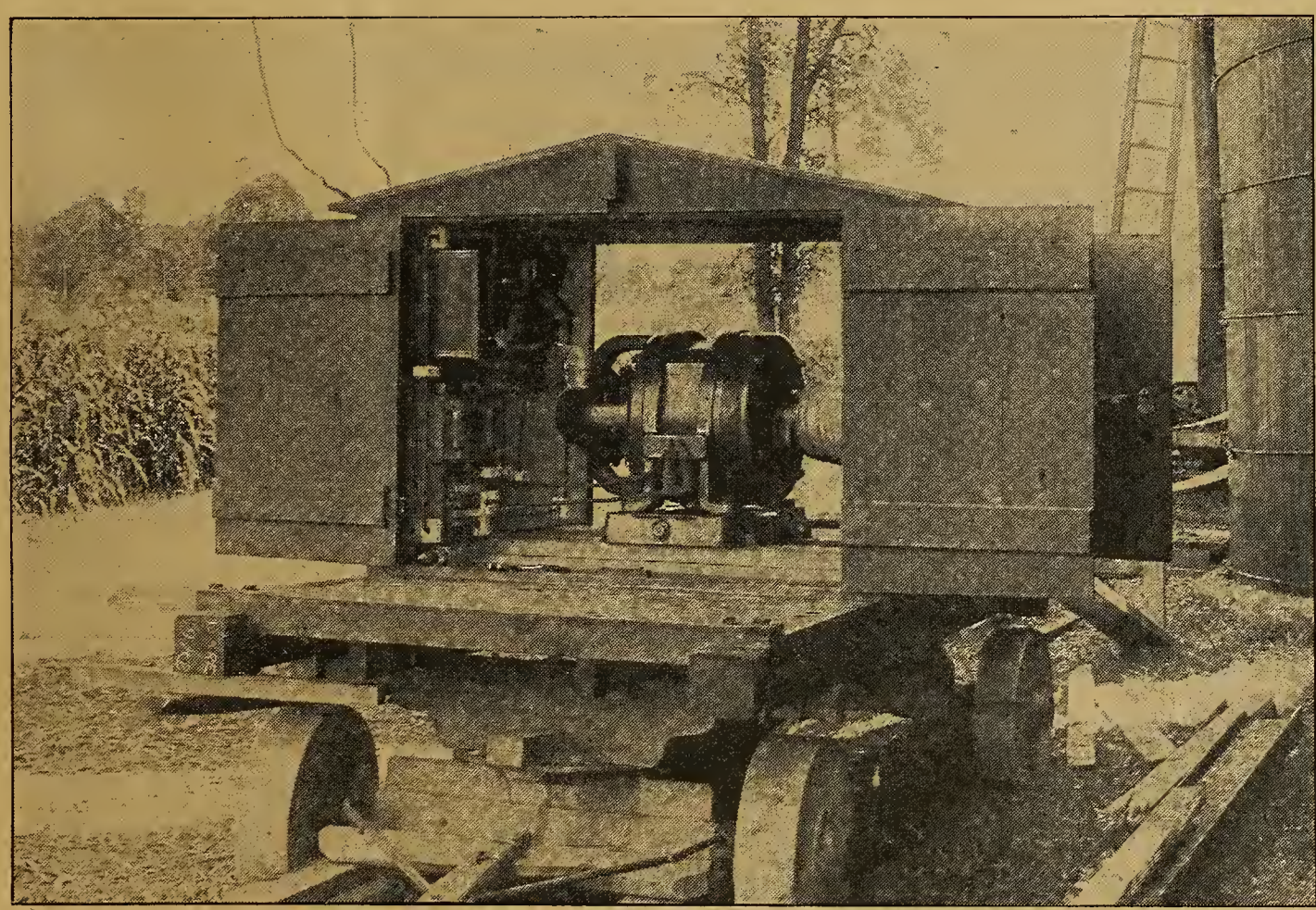
The Cost of Electric Lights

Electricity furnishes the safest, cleanest, and most effective and convenient system of lighting the farm home, outbuildings, and barnyard. Many a farmer is using it for such purpose, two plans being followed: either he builds the transmission line himself and presents or leases it to the power company, paying the same rate as city users, or he induces the power company to extend its lines to the country and add the cost, in annual instalments, to the price charged the farmer users. The average cost for wiring and installing lamps runs about $2 an outlet, which is extremely low, considering the service.

But there are many other uses besides illumination to which electricity can be put in the farm home. Here is a partial list of the most common: it will operate the washing machine, electric iron, water pump, electric fan, sewing machine, meat grinder, bread mixer, refrigerating machine, buffer and grinder, and so on. The complete list would be a long one.

Few of these are prohibitive because of the cost.

The motor for the water pump usually ranges in size from ¼ to 1 horsepower, the average being ½. The power cost ranges from 2½ cents to 10 cents an hour. A 6-pound electric iron uses from 4 to 6 cents' worth of electricity an hour. For convenience, one motor can be used to run the washing machine, cream separator, pump, churn, meat grinder, ice-cream freezer, vegetable peeler, and bread mixer.



The 15-horsepower motor here pictured is belted up with the silage cutter and blower. Not only is the electric motor convenient, but it is safe. The fact that the switch, shown just left of the motor, can be opened and closed in an instant means that the operator can apply "safety first" principles

An electrical expert has figured out the amount of household work that can be done with one cent's worth of electricity, at 10 cents per kilowatt hour. Here is the showing:

It will operate a 6-pound flat iron fifteen minutes.

It will drive an electric vacuum cleaner long enough to clean 450 square feet of carpet.

It will lift 100 gallons of water 100 feet.

It will run a sewing machine two hours.

It will run a 12-inch electric fan two hours.

It will run a buffer and grinder one and one-fourth hours.

But the thrifty farmer is not much of a hand to buy things only for the home: he wants to see uses for them elsewhere.

There are twenty uses to which electricity can be put in the dairy, the most important being to operate cream separators, churns, water pumps, milking machines, refrigerating machines, milk clarifiers, Pasteurizers, and milk-circulating pumps.

The electric motor is especially valuable for a cream separator, as its use insures a constant speed and a standard test of cream. Nor is it prohibitive in cost. Tests have shown that the cost to a farmer who separates 300 pounds of milk a day is 2.2 cents per hundred pounds when done by electricity, and 4.1 cents per hundred pounds when done by hand, a saving of practically 2 cents per hundred pounds for the electric-driven separator.

The advantage holds good with other appliances. The size of motor used for driving churns ranges from ⅛ to 3 horsepower.

The complete cost averages about one cent for every 10 pounds of butter churned and worked.

The situation in regard to the milking machine is most interesting. Tests made on an 8-machine milking equipment, driven by a 3-horsepower motor, indicate that the power cost is about 2 mills to the cow, with electricity at 10 cents a kilowatt hour. The complete equipment cost $900, and with it from 90 to 100 cows are milked twice a day.

The dairyman who made the tests asserts that the saving in labor cost in eleven months paid for the equipment. Eleven men were formerly required, but with the aid of the milker the work is now done by five.

The advantage of the electrically driven milking machine is that one man can tend to two machines, which will milk about 22 cows an hour. The average farm hand will milk about six cows an hour. The labor and power for the 2-machine equipment is .97 cents per cow, for the 6-machine .87 cents, compared with 2.5 cents per cow for hand milking.

There are over thirty applications of electric drive in the barn and field, among the most important being water pumps, feed grinders, corn shellers, ensilage cutters, grain elevators, concrete mixers, grain threshers, grain graders, bone grinders, hay hoists, hay balers, and clover hullers.

Feed grinders require motors ranging from 3 to 10 horsepower, the larger ones from 10 to 30 horsepower. A farmer who has 600 bushels of corn to grind in a year, and who lives 3½ miles from town, will find his electric grinding costing him 9¼ cents a bushel. The cost at the mill in town is 8 cents, an advantage in favor of the town mill of 1¼ cents a bushel. However, this is assuming that the motor is used exclusively for this one operation. But if only one half of the motor's time were chargeable to this operation, the charge for power would be cut in two and the total cost for the home grinding would be 7.09 cents, a difference of .91 cents a bushel in favor of the electric-driven home grinder.

Personal Danger is Lessened

In driving ensilage cutters, huskers, shredders, threshing machines, and clover hullers by means of electric motors, there is obtained the additional advantage of a uniform operating speed. Another important consideration is that the element of personal danger is eliminated. With the switch within ready grasp of the operator the power can be shut off instantly at the first sign of danger.

A gasoline-electric harvester which is being used extensively in California is of interest. It consists of an 80-horsepower, 6-cylinder gas traction engine which, in addition to supplying the motive power for the tractor, drives a 20-kilowatt generator, through belting. A 25-horsepower motor drives the entire harvester. The crew required for the operation of the outfit consists of an engineer, two sack sewers, one tender, and one header man. Marked savings in operation have been obtained, and with all allowances for upkeep and depreciation this outfit has reduced the cost of harvesting approximately 60 cents an acre, effecting a saving of at least $2 an acre. This equipment, under normal operating conditions, will harvest, clean, and thresh 2,200 bushels in a ten-hour day.

Among the applications of electricity in the farm workshop the most important are the driving of grindstones, saws, drills, and forge blowers. Soldering irons and glue pots can also be used to advantage. The ordinary grindstone can be operated by a motor of ⅛ to ¼ horsepower, the saw with anything from 1 to 5 horsepower, depending upon the diameter.

One cent's worth of electricity, at 10 cents per kilowatt hour, will do the following:

Keep a one-pound soldering iron hot for forty minutes.

Keep a ½-pint glue pot hot for five hours.

Operate the grindstone and emery wheel for thirty minutes.

Drive a farm-forge blower for two hours.

Operate a portable drill from twenty minutes to one hour, depending upon conditions.

The day is predicted—and that not very far off—when the farmers of America will form co-operative companies in connection with the public-service corporations, as they have already done in Germany, to secure the greatest economic benefits available. For, as the cost of manual labor, horse labor, and fuel increases, just in the same proportion will the saving shown by electric power increase.

So alert are farmers to their opportunity that already some of them, in the Middle West, are running electric generators by windmills, while in many sections all-too-long overlooked water power is being utilized.

However, no matter how enthusiastic we may get for these new conveuiences, there is no need for us to rush in in haste and thereby waste the profits we have made during the last few years. We must buy this power for our farms as we would buy any other kind of power—with the idea that it must pay for itself.

It can do this in many cases. Carl J. Rohrer, agricultural engineer for one of the large electric manufacturing companies, emphasizes that electricity as a means of light and power on farms has come to stay, by saying: "There are many conditions which have brought this about, the most important being the extensive use of pumps for irrigation in the West, the great fire risk involved when the kerosene lamps and lanterns are used in the home and about the farm buildings, the farmer's desire to have the comforts and conveniences of his city brother, his endeavor to shorten and eliminate as far as possible the drudgery of the farm chores, and the scarcity of an ever-increasing cost of manual labor. All of these farm problems are either eliminated or minimized by the use of electricity."

That is the opinion of a man who is working with electricity all of the time. Others of his stripe think the same way. These engineers are working to make possible electric power for all of us.

As a result we are coming more and more to look forward to an early dawn of that long-promised day when, instead of hearing the hired man creak down the protesting stairs in the wee small hours of the morning, we can sleep the good sleep of early day, knowing that when we start our new hired man a little later he will be able to serve us well.

A Lover of Children

The Story of Uncle John Spencer and His Cherry Trees

By JESSIE FIELD

IN THE very heart of the Chautauqua grape belt, where the vineyards extend for miles, there is a cherry orchard of 2,000 trees, planted by Uncle John Spencer, a man who dared to think for himself.

He had watched his neighbors as they set out vines in their fields and cut down their orchards to enlarge their vineyards at the time of the wide-spread introduction of the Concord grape which has since made the region famous.

The Spencer farm, when he received it from his father, was partly set out to grapes, but John W. Spencer was not content to follow the example of all these others.

One July morning, about twenty years ago, he was up in a cherry tree, picking.

As he worked he began to think.

He made an estimate as to the number of cherries he had gathered, he thought of the time it had required, and he thought of the market value of the fruit. As a result he evolved the idea of growing cherries on a large scale for the profit they would bring.

But he was not yet ready to act.

He continued his custom of studying hard, often until late at night, in his insatiable desire to obtain information as to the best of modern methods of agriculture.

He became president of the Chautauqua County Horticultural Society, and was largely influential in securing for his part of the State a series of farmers' institutes under the Extension Department of the New York State College of Agriculture.

He kept at the idea of cherry-growing and turned it over in his mind.

At last, in the spring of 1896, he decided to set out several hundred cherry trees as the beginning of his experiment. With dogged persistence, as the years passed by, he profited by his mistakes in planting, rectified them, and increased the number of trees.

He Wanted to Understand

During the years of waiting before the orchard came into bearing, he spent much time at Cornell, for he felt the burden of translating into the farmer's language the results of scientific research.

He himself had not understood so many things. He wanted to help others who were so situated. He felt that he could do this, and he began his work. At first he undertook to do it without any thought of pay for his labor. Later when the Cornell College of Agriculture saw what he was doing, he became identified with it, a thing which made it possible for him to accomplish more.

He was simply a far-sighted farmer—one who had been obliged to meet the problems which the soil presents every day. His education had been limited. But in spite of his handicaps he developed the work at Cornell, and from it has come the Cornell Nature Study movement and the Farmers' Reading courses. Now these courses have been enlarged so that they include all farm interests, everything about the farm and the home. And for this Uncle John Spencer should be given credit.

But it was toward the little children that his heart yearned most. He loved them dearly, and realized the value it would be to them to have simple instruction in agricultural matters.

Again he thought things out in his own way, and carried them to a successful conclusion in spite of obstacles.

When speaking about his idea afterward to a friend, he said:

"I felt that if you want to accomplish anything with children you must give them something to do. An idle child's head is the devil's workshop.

"I recalled the pleasure of playing in the mud, and asked why children might not be taught to work in the garden, to make marbles of clay, and to learn that the stiffer the clay the harder the marble; by adding sand, to learn that it becomes more friable, and thus to learn the secret of making a hard clay soil amenable to culture."

At first the Cornell authorities were by no means enthusiastic over this suggestion.

Mr. Spencer, with the determined faith that had backed his cherry orchard, secured a corner in a class-room, sat down, and wrote to rural schools all over the State. Soon the answers began pouring in, welcoming the idea, and the work was launched.

For the instruction of both teachers and children many pamphlets were written by Mr. Spencer, and by others at his inspiration. For this work and in the writing of letters to children Uncle John showed a peculiar ability. Some idea of his attractive style may be gained from a quotation or two.

"Every child should have a salad garden. It may be in size from that of a pocket handkerchief to an area four feet square. The three best salad plants for early planting are peppergrass, radishes, lettuce. These belong to the cold-loving or polar-bear class of plants, and no harm will happen if a flurry of snow falls after the seed has been sown.

"Because this garden is in miniature, it is no doll or toy garden. It gives real salad things to eat, and in greater abundance than the novice would imagine."

Uncle John Spencer, friend to children, who showed how they could learn farming while at play

With his deep insight into human nature Mr. Spencer advocated the celebration of a salad festival as an incentive to good, faithful work in the gardens. He also recognized the social significance and value of such an event. In writing of this in a pamphlet for the instruction of teachers he declared:

"The heaven-born teacher knows the power of anticipation in the child's mind—having something to look forward to. He loves to contemplate castles in the air. In this case give him castles that will materialize. Glorify a coming salad festival, or barbecue, reception, or party. Christen the event with whatever name will arouse the most enthusiasm with the children.

"The wise teacher will stand back by the rudder and let the children have the feeling that they are manning the ship.

The Salad Festival

"The peppergrass, lettuce, and radishes may be chopped with some hard-boiled eggs to which some mayonnaise dressing may be added. This makes delicious filling for sandwiches. If there be those who have no gardens, hard-boiled egg or bread may be accepted as a substitute. Added glory will be given to the event if invitations are sent out to the friends of the children.

"The girls will be immensely animated with the thought of being hostesses, and the boys will also find a place and pleasure in helping to entertain."

As an outgrowth of the garden work, two societies for children were formed—"The Junior Naturalists" and "The Junior Gardeners."

These spread from this country to France, England, India, Japan, Egypt, and Madagascar, the total membership reaching as high as thirty thousand in one of the later years. The members paid their annual dues by writing of their nature observations to Mr. Spencer, who always sent some kind of an answer, if only by means of a circular letter. These communications of his were always signed "Uncle John," and from this usage the custom grew until the name was used lovingly by grown people as well as by the children.

His cherry orchard has become an object lesson to the grape growers of the Chautauqua district. Many of them have profited by his advice to plant cherries for an early crop whose returns should finance the grape harvest and do away with the necessity for working on a credit basis at that time.

From Mine to Farm

By F. P. STOCKBRIDGE

FIFTEEN years ago Alex Palo was a miner working in the iron mines at Biwabik, Minnesota. He had five children. He was getting fair wages, but there was no future in sight. He decided to try farming, although he was not a farmer and knew nothing about agriculture. For fear that he might fail he picked out a quarter section located near the railroad at Emharrass, Minnesota, thinking that if the worst came to the worst he could get a job in a section gang.

He took up 160 acres under the homestead act. The only road from his quarter section to the railroad was a branch of the Partridge River. He spent his spare time in the winter of 1899-1900 in building a boat, and in March, 1900, loaded his family and their household goods on the boat and rowed and poled up the river to the new farm. With the help of another man, whom he hired for three days, he built a log cabin in which the family lived for two years. Part of the land was low ground, and when he cut a trail through the woods to the railroad a mile away, he worked in water knee-deep.

When he settled on the claim he had a team of horses and about $250. There was a little white pine left on the land, and for this timber, cut into logs and delivered in the river to be drifted to Biwabik, he got $200, which paid him about the same wages for the time spent that he had earned at the mine.

One of his horses died, and nearly all the money he got from the timber had to go to buy a new horse, so all the money he made the first year was what he earned in cutting fence posts from the second growth timber, which paid him about $2 a day.

Nearly all of his $250 he invested in cattle as soon as he had enough land cleared to keep them. Two of his cattle were killed on the railroad, but the company finally settled his claim for $135.

By the end of the first year after taking up the claim, he had cleared about five acres, getting off the wood and brush and turning the land into stump pasture. The land, like most of the forest lands of the Northwest, was a rich black loam, full of vegetable humus from the constant accumulation of decaying leaves—about two feet of this rich soil over a clay subsoil. As soon as the timber was off it was easy land to work, and Mr. Palo picked the easiest part of it for his first year's potato patch.

The second year he was able to plow enough of his land for a small potato patch and garden. Other settlers were coming in, and he sold them some butter and milk and an occasional bushel of potatoes, which brought in some cash. Every year he has cleared a little more land, putting it under cultivation.

For the last eight years Mr. Palo has sold an average of nearly 400 bushels of potatoes a year, which is his principal cash crop. Most of the land, however, is in pasture and meadow for the growing dairy herd.

Recently Mr. Palo bought 40 acres more from the railroad company for the value of the timber on it. He has a comfortable house and a good barn. There are eight children now.

When Mr. Palo worked in the mines he was gone in the morning before the children were up, and he did not get home at night until they had gone to bed. On the farm the boys work with him, and get acquainted with him and each other, and like their work. The girls and their mother help too, and they are all developing into good farmers and good citizens.

EW

West of Cheyenne, Wyoming

Note the sign—the middle of the continent. Four miles west of Kearney, Nebraska

Utah—a ribboned road

The Lincoln Highway

How Our New 3,400 Miles of Roadway Were Planned

Some of Iowa's bad roads; the tractor that helps improve them—

—and how they can be made to look when properly built up

Farmers co-operating in the building of better roads—Boone, Iowa

"UNCLE SAM'S feet must be pulled out of the mud," said a group of men who met on September 30, 1913, for the purpose of planning a direct route from New York to San Francisco. "We need," they said, "a continuous improved highway from the Atlantic to the Pacific, open to lawful traffic of all descriptions, without toll charges." All agreed that this was what was needed.

It was planned to make as much as possible of the road of concrete, and to have the whole work a memorial of Abraham Lincoln.

Thus it was that the Lincoln Highway became a reality. The map at the bottom of the page shows what was planned.

What has been done since the formation of this plan? Over seventy-five per cent of the coast-to-coast pathway is marked with the red, white, and blue markers. Eight markers are placed in each mile. The entire road is passable, as was shown on the day after Thanksgiving last year when the whole highway was covered by motorists, each doing an assigned portion of the whole. Last summer an automobile covered the entire distance over the highway in thirty days, and experienced no difficulty. Others have made the trip in less time. This year the Panama-Pacific Exposition will attract tourists over this route.

Not alone for the tourists, however, is this road important. The direct value of the road to farmers will be felt in the nearness with which market, church, school, and neighbors will be brought to the family. And not alone to those who live directly on the highway will come the benefits, for feeder roads are being planned and developed, so that from the main thoroughfare will go out to practically the whole country a vast network of roads. This will accomplish for the country what paved streets have for the city.

Of course the highway is not complete, but the appropriations which States are making, and the co-operation with which the plan is meeting from citizens everywhere, are advancing the work.

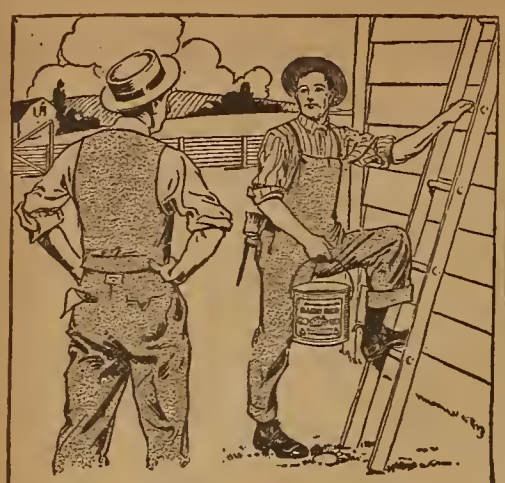
The road breaker is a civilizer. This is a big job in the making of better roads.

A glimpse at one of the big Nevada ranches located along the highway

In California. Beautiful scenery like this makes cross-country travel interesting

Another California beauty spot for those who use the Lincoln Highway

EW



"What you got there John?"

"Some war paint for the old barn."

"Didn't know your barn was a fighter!"

"You bet she is! The life of any barn is just one scrap after another—with the weather! In the winter it's snow and frost and sleet. In summer it's wind and sun and rain. Just now my barn's yelling for help—and here's the stuff that will give her the best of it for a long time to come."

"What kind of paint is it?"

"*Sherwin-Williams Commonwealth Barn Red.* Those people know how to make paint that sinks into the wood, covers well and sticks on. It works easy under the brush and a little certainly goes a long way!"

"Sounds good to me. I just bought some lumber to repair my barn and how lumber does cost!"

"Know how much I've paid for repairs in the last five years? Just exactly nothing! I haven't given the weather a chance! You'll find, Henry, that it's cheaper to paint than to repair."

John bought his Barn Red at the Sherwin-Williams store in town, where every paint for farm use can be bought. We gladly send free our painting book for farmers.

SHERWIN-WILLIAMS PAINTS & VARNISHES FOR THE FARM

Also
Insecticide and Fungicide Makers
Best dealers everywhere. Address inquiries to
691 Canal Road, N.W., Cleveland, O.

Harvest Hands

Last Year and This—A Big Problem to Solve

By GEORGE CREEL

MORE than any other employer in the country the farmer should be vitally interested in such regularization of the labor market as will give him the right workers at the right time. A delay in harvesting, caused either by shortage of hands or incompetent ones, frequently spells the difference between profit and loss. Yet the farmer, less than any other employer perhaps, refuses to take the concerted action that would bring this regularization about. Each season, in consequence, finds his labor need more desperate and his hired-help problem more irritating and difficult.

In every line of industry the system of hiring "catch as catch can" help is altogether unsatisfactory, but in agriculture it reaches a limit of endurance. A survey of the harvest conditions in 1914 will show something of the gamble the farmer must often take with his crops. It may serve also as a prophecy for 1915, and every year thereafter until some remedial steps are taken.

It will be remembered that in May last, when there was a certainty of bumper yields, the grain growers of Kansas, Missouri, Oklahoma, and the two Dakotas commenced their call for harvest hands, informing the nation that they needed 100,000 men. The machinery of the call may be described as follows:

Calls for harvest hands sent out by state officials; calls sent out by the United States Department of Labor; advertising by local commercial clubs, local business men, or agents representing the farmers; news items inspired by state officials, farmers, railroad officials, and others interested; news items published as news without special inspiration; advertising by various railroad companies.

By no possibility could a muddle have been escaped. The duplication of advertising invited it. In the first place, the estimate of 100,000 was based on guesswork instead of accuracy. As an instance of the manner in which guesses varied, the harvest bulletin of the Labor Commissioner of North Dakota asked for 10,000 men at one time, while the director of the North Dakota Experiment Station was convinced that 50,000 men were needed. Yet even had 100,000 been a fair computation, the plan was unbusinesslike throughout. No machinery was provided for securing men fit for the work. Men poured into the grain region who were absolutely worthless to the farmer: some because they did not want to work steadily; others because they were physically unable to do the work.

Men Were at the Wrong Place

No provision was made for the transportation of the harvest hands so as to insure their arrival at the proper place at the proper time. The men straggled along in stray droves, beating their way on freight trains, losing precious time, and constituting a vagrant problem for every town through which they passed.

There was no system of distribution: some towns were crowded with idle, impatient men; other sections were crying in vain for laborers.

No systematic precaution was taken to prevent an overplus of men going to the grain-growing centers.

It is true that the Department of Labor attempted to check the rush of men to the harvest fields by a warning issued under date of June 24th. The mischief then had been done. Many men who read the bulletins of May 27th and June 4th failed to read the warning to "stay away." In some cases postmasters seemed to have neglected altogether to post the bulletin of June 24th. Other agencies did not even take the trouble to issue a warning.

On June 21st, for instance, there was a plate-matter item in the "Daily News," Aberdeen, South Dakota, which read as follows:

Need 82,000 Workers

Harvest Fields Offer Opportunity for Unemployed of the Cities

Kansas, Missouri, and Oklahoma raisers of wheat need at least 82,000 more men to help in harvesting their crops, and the commissioners of labor of those States have asked Secretary of Labor Wilson to have his department co-operate with them in obtaining the necessary workers.

The men will be wanted by June 15th, and the pay, it is stated, will range from $2 to $3.50 per day. The period of employment will be from three to five or six months.

At the time this item appeared, Aberdeen was full of men looking for work in the harvest fields. The "News" was doubtless only one of many papers in which the dispatch was printed, for scores of men explained their presence by stating that they had seen the appeal in their "home paper." It will be noted that this particular item declares that "Kansas, Missouri, and Oklahoma raisers of wheat need at least 82,000 more men to help in harvesting their crops" just two weeks after the farmers of the States named had practically finished harvesting their wheat.

The statement that "the period of employment will be from three to five or six months" is another example of the misleading statements that were sent out by state officials and representatives of local communities.

Of course that which was merely disorder at the outset soon got to be an unbearable nuisance. Twice as many men came as were needed. They filled the towns, and became a serious menace to peace and health in country and towns alike. Farmers and men without work reached a stage of bitter antagonism after a time. The farmer's income for the year was dependent upon the harvest. Often he was left at the mercy of incompetent laborers and menaced continually by desertion. The agitation spread throughout the whole body of harvest hands. This resulted in wage-fixing combinations and in agreements to stop work until demands were met.

Certainly the harvest hands had grievances of their own. These men had been invited to come into the grain region on the promise of steady work for three months at least, at an average wage of $2.50 to $3.00 per day. In many places where there was an overabundance of men the wage dropped below $2, and when the hands refused to work at this price they were sometimes arrested and jailed on petty pretexts. The rights of free speech and peaceable assemblage were taken away from them in scores of towns, and for no greater crime than singing a song men were given thirty days in jail.

It was not an uncommon thing for an armed posse to meet trains and decide who could get off and who must stay on. Or if the town was deemed too crowded, special deputies drove the work-seekers beyond the corporation limits.

Hired Help Need Good Sleep, Too

In the case of the men who did get work, complaints were bitter against the lodging provided for them. There were some employers who contended that anything was "good enough" for a harvest hand, and that "they don't mind it." The fact is, however, that many of the men did mind it. They objected to sleeping in granaries full of rats and mice, on the bare ground in tents, or in barns where the odor of the stable was strong. They objected, even when the physical discomforts were not serious, to the attitude which the employer assumed when he sent them to the barn or the straw stack to sleep.

The men who were in the harvest fields to look for work came from all parts of the United States, large numbers encountered stated that they were from California, Washington, Texas, Colorado, Montana, Georgia, South Carolina, New York, Tennessee, Ohio, or Pennsylvania. A large proportion, of course, came from the States closer by, and many from the cities within the grain belt itself.

Most of the men, probably four fifths of them, were native-born Americans. Nearly all the rest were Americanized Europeans, Finns, Slavs, and Italians being most prominent among the more recent immigrants. The Finns came chiefly from the northern part of the grain belt. A few Mexicans were employed in the States of Kansas, Missouri, and Oklahoma. Negroes occasionally find employment as harvest hands in both the Northern and Southern States, but the number of negroes so employed is insignificant.

Nor was it true that, as a class, the men were "bums" and "hoboes." There were many of these, to be sure, but the percentage was comparatively small. A large proportion of the floating army were migratory laborers who had no permanent occupations and no home. These work as regularly as they can at "anything and everything"—in railroad-construction camps and lumber woods, in the great fruit-growing districts of the Pacific Coast, on public work in the cities, and in the rice fields of Louisiana, wherever common laborers can find employment.

A third great group among the harvest hands was made up of men and boys who have regular occupations, but who, for one reason or another, temporarily joined the ranks of the unskilled, migratory labor. In this group may be found mechanics, tradesmen, clerks, factory workers, miners, section hands, settlers of government homesteads, poor farmers, and students from the universities, colleges, normal schools, and high schools. The individuals in this group come to the harvest fields usually because they are temporarily out of work at their regular employment; because they expect to make greater earnings than they can make at their regular employment; or because they feel that their health demands a change to the outdoor life. Some, however, enlist for the work of the harvest fields merely to get an opportunity to "see the country." Among the latter may be found sons of well-to-do farmers and business men as well as young fellows who are dependent on their own resources but who have not yet entered into any regular occupation.

We Should Get Up-to-Date

The thing to do is to end what promises to be an annual repetition of last season's unbearable situation. Certainly the first approach to a solution of the problem is the substitution of a modern system of hiring for the present antiquated machinery. The answer lies in the creation of a national labor exchange—the invention of federal machinery for the reorganization of the labor market on a scientific basis.

The Government tells manufacturers where to find markets for their finished product, and furnishes a wealth of accurate information regarding crops, soils, live stock, disease prevention, child protection, weather changes, and what not. Only labor is left unaided.

A national labor exchange would necessitate very little new machinery, placing largest emphasis upon the correlation of existing agencies. Public employment bureaus, state and local, could be centralized, the federal board serving as a vast clearing house for all labor information.

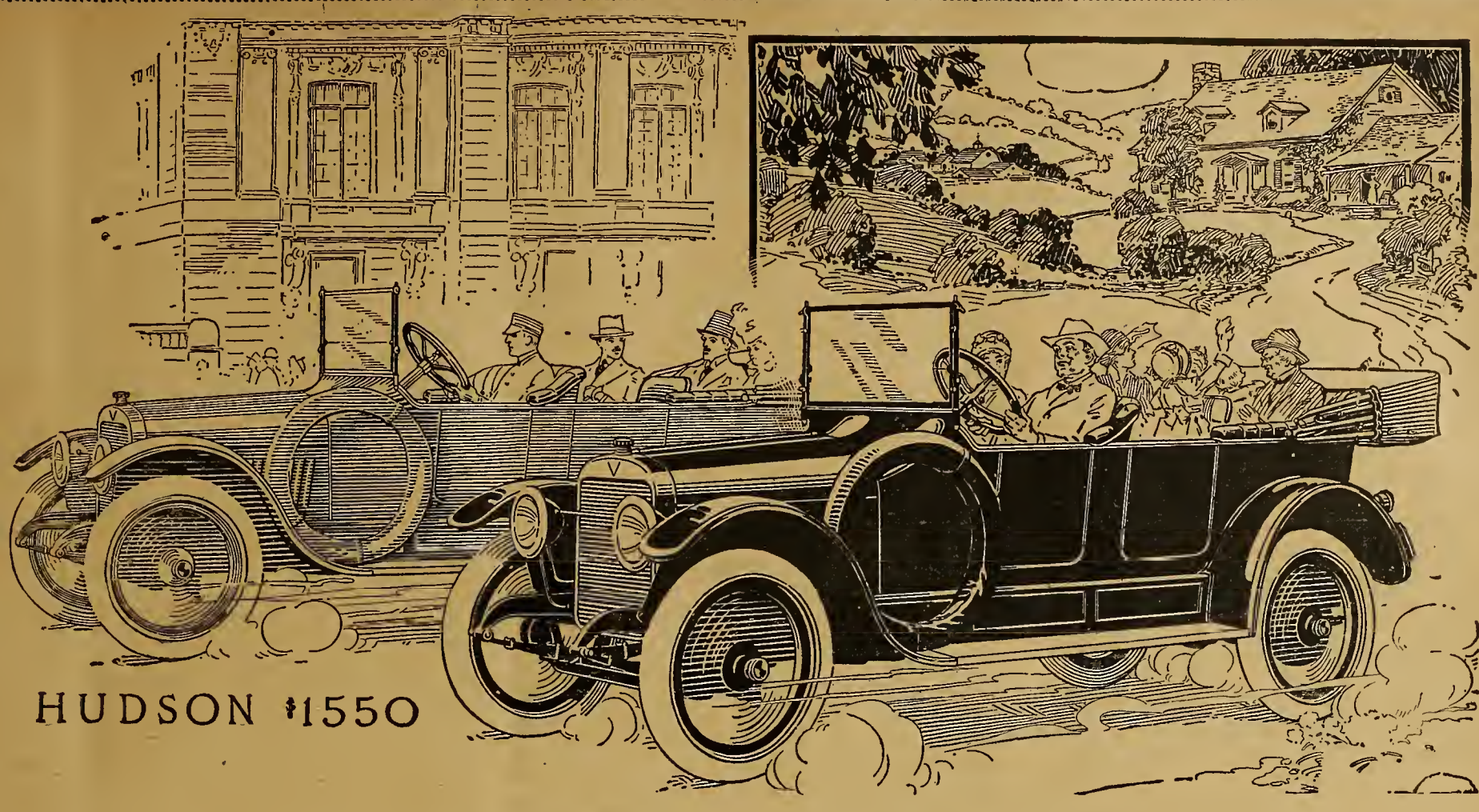
Such an organization would end the sorry spectacle of hungry, rebellious thousands stealing rides in freight trains, crowding town "squares," begging "hand-outs," and degenerating into "bums," agitators or petty thieves. Not only would the information furnished tell the man where the job was, what it was, and how long it would last, but a scheme of cheap transportation could be devised that would get him to the job without loss of time and self-respect. Then, too, only fit men would be sent to the farms needing help. In that way the farmer would no longer be handicapped by unfits.

E-W

The Greatest Partnership in the World

THE farmer's wife knows more about her husband's business than any other man's wife knows about his. She has a fairer, clearer, and more helpful understanding of it than the average lawyer's, doctor's, or merchant's wife can possibly have about her husband's business, for she lives and works with her husband on their "plant." The farmer's wife is the farmer's partner in more senses than one. In the majority of cases she actually operates certain departments of the business.

Most wives have genuine interest and some information about their husbands' business, but the farmer's wife, living with her partner on their plant, occupies a unique position among all wives. With this greater opportunity for helpfulness than her city sisters, her responsibilities have increased proportionately. All honor and respect to her who carries this heavier burden. Farm and Fireside recognizes these facts and is published for the Farmer and his Partner.



Every HUDSON Owner
Finds Himself
In Splendid Company Today

If you went to New York you would see on Fifth Avenue hundreds of HUDSON cars. You would see in them women of fashion and men of wealth.

If you went to Washington you would see in HUDSONS men of national repute. Many senators own them, one cabinet member, and other well-known men.

So wherever you go. You will find HUDSONS owned by leaders. And nowhere will you find a finer car, a handsomer car, or a car that men more respect.

Do you know what that means—to feel that your car is the class car? To know that it proves you discriminating? And do you know that a man ashamed of his car loses half the enjoyment of motoring?

It's More Than Pride

Distinguished men, of course, like to own distinguished cars. But it is more than pride that leads big men to buy HUDSONS.

These men of wealth and position are usually experienced motorists. They have driven cars for years—cars of various makes. They have learned in those years the need for quality cars. They know that it pays to buy them.

Note that under-grade cars are usually bought by new buyers. They are not bought by men who know. Men who have been through the mill insist on getting the best that can be built.

Suppose You Save $200

Suppose you could save as much as $200 by getting a lower-grade Light Six. How long would it take you to lose that saving when parts began giving out? But the days you'd lose—days of pleasant driving—would mean more than the money.

An under-grade car may look well when you buy it. It may drive well for awhile. But the finish soon grows shabby. The skimping, weakness or mistakes are bound to show in time. The second season is a costly time with a poor car. Every old-time motorist knows this. That's why they buy quality cars.

A HUDSON, if you wear it out, will last years longer than a low-grade car. If you sell it later, it will bring a much higher price.

So you save nothing at all when you sacrifice quality. And you lose content, lose pride of ownership, lose half the fun of driving. Any man who has had experience will tell you not to do it.

The Day of Light Sixes

The Light Six today is the standard, popular type. Few cars are sold above $1100 which are not of this up-to-date class.

Every ambitious motorist has long wanted to own a Six. It means continuous power, flexibility, luxury of motion. But Sixes for years were high-priced and heavy. They were costly in tires and fuel. Only the few could own them.

The HUDSON wiped out those obstacles in creating this new-type Six. By better materials and better designing it saved more than 1000 pounds. It cut tire cost and fuel cost in two. And it brought down the price until this new HUDSON—the ideal Light Six—costs but $1550.

Why HUDSON is Best

Nearly all the better makers have now come to Light Sixes. But the HUDSON still leads for these reasons:

HUDSON is the original. It created the Light Six type. Our whole engineering corps, headed by Howard E. Coffin, has devoted four years to perfecting it. So the HUDSON today shows all the final refinements. It shows the Light Six as it will be.

This is the only Light Six designed by Howard E. Coffin, who has led for years in motor car designing.

And there are 12,000 HUDSON Light Sixes in use. In the past two seasons these cars have been driven some 30 million miles. So this is the proved-out car of this type. It is utterly certain that this car will develop no weakness or shortcoming. In a new-type car, so much lighter than old types, this is a very important matter.

That's why we urge you to see this new HUDSON. It's a car you'll be proud of. It is a finished production, and you know it is right. It gives you a value which would be utterly impossible without our enormous production.

See it now. Last spring thousands of men waited weeks for this car. This spring we have trebled our output, but there are sure to be delays if you wait.

7-Passenger Phaeton or 3-Passenger Roadster, $1550, f. o. b. Detroit

The HUDSON Company never loses interest in the cars it sells. So long as a car is in service we maintain our interest in the character of its service. That's one great reason for HUDSON reputation.

HUDSON MOTOR CAR COMPANY
DETROIT, MICHIGAN

E W

Neighborizing the Farmer

One of the most significant facts of our telephone progress is that one-fourth of the 9,000,000 telephones in the Bell System are rural.

In the days when the telephone was merely a "city convenience" the farms of the country were so many separated units, far removed from the centers of population, and isolated by distance and lack of facilities for communication.

But, as the telephone reached out beyond cities and towns, it completely transformed farm life. It created new rural neighborhoods here, there and everywhere.

Stretching to the farthest corners of the states, it brought the remotest villages and isolated places into direct contact with the larger communities.

Today, the American farmer enjoys the same facilities for instant, direct communication as the city dweller. Though distances between farms are reckoned in miles as the crow flies, the telephone brings every one as close as next door. Though it be half a day's journey to the village, the farmer is but a telephone call away.

Aside from its neighborhood value, the telephone keeps the farmer in touch with the city and abreast of the times.

The Bell System has always recognized rural telephone development as an essential factor of Universal Service. It has co-operated with the farmer to achieve this aim.

The result is that the Bell System reaches more places than there are post offices and includes as many rural telephones as there are telephones of all kinds in Great Britain, France and Germany combined.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

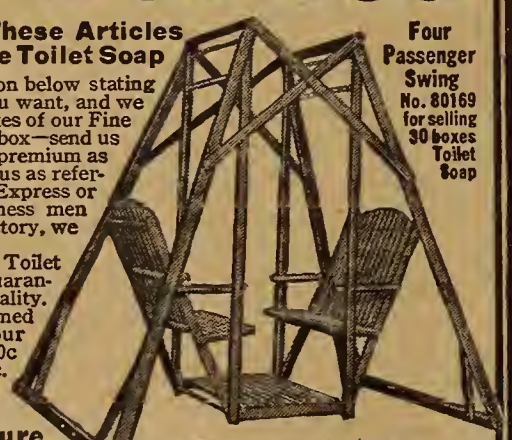
One Policy *One System* *Universal Service*

Easily Earned

We Give You Your Choice of These Articles for Selling 30 Boxes of Our Fine Toilet Soap

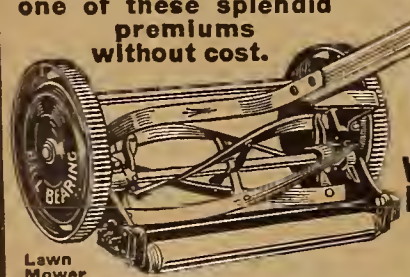
SEND NO MONEY —Just fill out Coupon below stating which Premium you want, and we will send it to you together with 30 Boxes of our Fine Toilet Soap. You sell the Soap at 50c per box—send us the money within 30 days and keep the premium as your reward. All we ask is that you give us as references, the names of your Banker, Pastor, Express or Freight Agent, or other responsible business men who know you.. If references are satisfactory, we will send shipment at once.

SOAP EASY TO SELL Crofts & Reed Toilet Soaps are guaranteed—everyone is familiar with their high quality. This Soap is put up in fancy lace-trimmed boxes, each box containing 7 bars of our most popular Soaps; has a retail value of 70c —sells on sight at our low price of 50c. Boys and Girls can easily earn these fine premiums in an hour or two.



Four Passenger Swing No. 80169 for selling 30 boxes Toilet Soap

Fill Out Coupon below and secure one of these splendid premiums without cost.



BOYS EARN THIS WAGON IN ONE HOUR

Boys' Farm Wagon No. 3804—Given for Selling 30 Boxes of Toilet Soap. An exact duplicate of a big Farm Wagon; body measures 18 x 36 inches; wheels measure 14 and 20 inches and have welded tires; nicely painted; tongue and extra pair of shafts.
IMPORTANT — Your father or mother must sign the Coupon, giving two satisfactory references — we cannot send wagon unless this is done.

No. 3804

Lawn Mower No. 45030—Given for Selling 30 Boxes of Toilet Soap. This easy running Lawn Mower is made from the best of material. The 16 inch cutting blades are constructed of fine tempered steel. The wheels are 9 inches in diameter and of the ball bearing type which enables this machine to run smoothly and easily. Reel is 6 inches in diameter with 4 cutting blades. Lawn Mower is handsomely finished in Aluminum and Gold Bronze.

CROFTS & REED CO. Dept. B 268 CHICAGO, ILL.

CROFTS & REED CO., CHICAGO, Dept. B 268 (324)
Kindly send me 30 boxes of Toilet Soap and Premium No..... I agree to sell the soap at 50 cents a box and send you $15.00 within 30 days, keeping the premium as my reward.
Name.....
P. O.....State.....
Street address or R. F. D.....
Give references here.
No. 1.....No. 2.....

Garden and Orchard

Team-Work Spraying

THE average unsprayed fruit orchard is a losing proposition. In them pests and diseases win hands down.

Last year Mr. R. A. Jay of the Ohio Experiment Station took charge of a neighborhood spraying club in Greene County and did things which ought to interest every orchard owner.

Two men and a power sprayer were hired by a club to spray eight small orchards owned by the members.

Three applications were given each orchard. The first was lime-sulphur, one gallon of the solution to 7 gallons of water just before the buds opened: the second spray was one gallon of lime-sulphur with 50 gallons of water and 3 pounds of arsenate of lead paste just after the blossoms fell; the third was ten days after the second, using the same materials.

In these three sprayings 427 gallons of undiluted lime-sulphur solution and 148 pounds of arsenate of lead were used on 800 apple trees. The average total cost was 44 cents a tree. This would be covered by about one bushel additional production of good apples.

The power sprayer and two men could have taken care of from 1,000 to 1,200 trees in orchards of from 50 to 100 trees each.

One member of this spraying club, Mr. Ferguson, sold his crop in Dayton, Ohio, for from 85 cents to $1 a bushel when apples brought 65 cents. Some single trees he sold unpicked for $15 each.

Another member, Mr. Garrett, sold most of his apples for $1 a bushel.

Mr. Sharp, another member, sold an early summer variety which had never borne before, for $2 a bushel.

Still another sold his Grimes Goldens from about a half dozen trees for $55. Three of his Rome Beauty trees got only the first spray and brought to maturity only about two bushels of inferior apples each. The trees sprayed three times averaged 10 to 12 bushels.

These spray-club members were so well pleased that they are continuing the club work this season.

Eggplant Requirements

By G. Thomas

YOU can grow eggplants as far north as the Great Lakes, provided you once have good plants and protect them from attacks of cutworms, flea beetles, potato bugs, and leaf blight.

You will need some skill to grow good plants for they require a higher temperature and richer soil even than tomatoes, and they must be started fairly early. I sow the seed in flats in March and set the flats on the hot-water pipes under a greenhouse bench (the warmest spot in the greenhouse) until the plants begin to come up. Then I place the flats on benches or on shelves in full light.

Beginners may find it best to purchase their plants from a grower. Set them out in the richest and warmest spot in the garden, at least two feet apart in rows three feet apart.

Potato beetles are particularly fond of young eggplants, which I spray more regularly and frequently than any other vegetable in my garden. Home-made Bordeaux mixture, with arsenate of lead added at the rate of an ounce to the gallon is our favorite spray material for eggplants, as it is also for potatoes, melons, and similar vines. The application of these materials protects the plant from injury by potato and flea beetles, and also heads off leaf-blight attacks.

In localities with very short seasons the Early Long Purple may be planted, but New York Purple Improved, Black Beauty, and perhaps Excelsior Tree are the standard varieties, good for home use and market. A row of eggplants in full fruiting, each plant having from four to six handsome eggs of various sizes, is a decidedly attractive sight.

Borers in Hot Water

By F. Werber, Jr.

YOU have perhaps heard that there is no remedy for peach borers except cutting them out with knife or wire. This is a slow, laborious, and unsatisfactory process by reason of the mutilation to the tree, the uncertainty that some of the borers may have been overlooked, the time involved, the backaches, and the worn-out knees of trousers. I'm sure I have a better method.

Try it first on some peach tree which is of little value if the remedy looks too heroic. It may look like blowing up a man with dynamite to cure his rheumatism, but just observe for a year or more the effect on that worthless tree and you will then use it on the entire peach orchard.

I have used it on hundreds of peach trees at all seasons of the year. In no case have I seen any injurious effects.

With a small garden trowel or similar tool dig a basin around the collar of the tree. Use the dirt removed to mound up the edge of this basin an inch or two higher than the surface of the ground. Pack the interior of the basin firmly. Then fill with *nearly boiling* water, pouring it on the collar of the tree, and leave until all the water has all seeped away. Replace the dirt in the basin and the operation is completed.

Your tree is uninjured, your back is not broken, your trousers whole and clean, but, best of all, not a single borer has escaped.

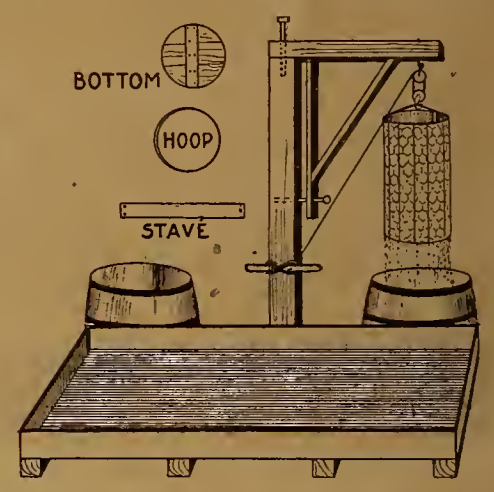
This remedy is applicable to peach trees only, where the borer works at the collar of the tree. The apple, pear, maple, elm, and some others have borers which work higher up, and to them this remedy cannot be applied.

For Dipping Potato Seed

By H. E. Keller

THE drawings show my device for dipping potato seed. I have used this method for three years and find it handy, quick, and labor-saving.

The principal parts of this device are a derrick, drying platform, two water-tight barrels, and a cylindrical basket. The basket is made of 1-inch lumber staves. It is made so as to go into the



barrel and have about 1½ inches of space all around. To make it, first make a solid bottom and then make enough staves to go around. Nail the staves to the bottom, using two nails in each stave, and fasten the staves together at the top with an iron hoop. Drill as many holes in the hoop as there are staves; then bolt the staves to the hoop. When the basket is complete, cover it with galvanized wire netting, which strengthens it considerably.

Put the potatoes in the basket, dip them the desired length of time, depending on the solution used, hoist out and drain.

Dump on the drying platform, cut, and let dry. By that time you will be ready for the next batch. I prefer to plant the potatoes at once, though I have successfully kept them three weeks.

The post for the derrick should be set deep enough to keep it straight even though the load is very heavy. By pulling out the removable pin the top part is shifted from one barrel to another. Locate this device in a sunny place to facilitate drying.

You can get along with only one barrel, but can do faster work by having two barrels and two baskets. One may be soaking while the other is draining.

Pears With Gardening

By G. O. Trueblood

IN ANY locality where the Bartlett, the famous canning pear, is a fairly regular bearer, I would advise gardeners to set some trees. An acre of Bartlett orchard, here in Western New York, often brings greater returns than an acre in vegetables. A good distance to set these trees apart is 20 feet each way.

Also set an occasional row or tree of other varieties, like Seckel, Clapp Favorite, Sheldon, Louise Bonne, Anjou, or Duchesse, in order to provide better chances of pollination. In some seasons here, the Bartlett is self-sterile.

Altogether this year has given big returns even when the whole crop was sold to canning establishments. The market gardener can often work off a fair crop of these pears to his retail customers and secure better prices than received by those who sell to the canners. Trees may be planted in the fall (October) or in spring. I prefer the latter time.

EW

Comfort at Home

The Simple Life on Worthmore Farm

By MARK SABIN

I LOOKED at this picture of the home of Paul R. Strain of West Virginia and asked Mr. Strain what in his judgment was the greatest thing he had ever done on this place.

"I am not sure that anything we have ever done is of great value to anyone but ourselves, but I have had considerable success in establishing a retail egg trade in a near-by manufacturing town."

That was an achievement worth mentioning, although Mr. Strain gave it in a very modest way.

"I have found," continued Mr. Strain, "that in order to get eggs to sell all of the year around I must have the very best chickens. Then, too, during the maple season we produce and sell maple syrup which we are proud of anywhere."

It was plain that this farmer had several lines of work which were profitable to him. I was interested particularly, however, in the home which I was seeing and in the factors which were making the farm a place of contentment. Evidently the fact that the owner had found out several profitable lines of effort had had much to do with it. But I could see, from several side remarks, that he had improved the place for comfort while making his money.

"When we took the place, my wife and I, in 1908, it was in a run-down condition. While the framework of the house had been put up in 1800 and used by my grandparents until about 1840, it had stood empty much of the time until we took it. In fact, no one had lived here for the thirty years preceding our invasion. When we moved here I remodeled the old structure by putting in a hot and cold pressure water system, with laundry, bath, water closet and kitchen sink. I also put faucets in the shop, chicken house, and stable. In the cellar I arranged a place for coal. Then the house at every opening was screened against flies with copper screen wire. A bread mixer, a bread raiser, and many other kitchen conveniences were provided. We lack only the fireless cooker, but that is coming."

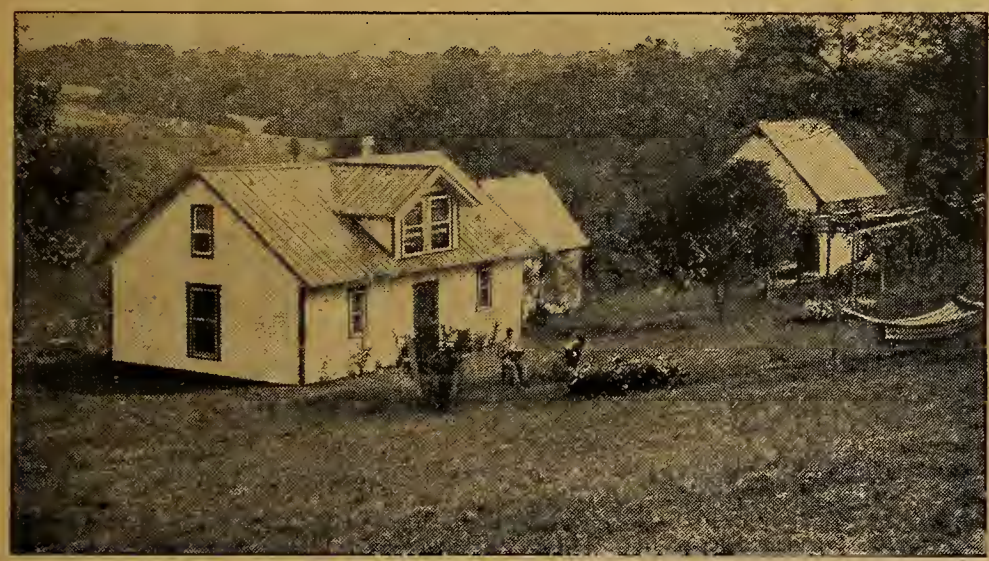
About here I commenced to think of the city people who would be thankful for these many conveniences. And I began to believe that his content is due much to the fact that he and his wife have things handy. Then I thought that he must have had quite a sum of money to build up an old run-down place in this manner, but he set me right.

"No," he said, "I have done all of the work myself, except the laying of the brick in the house chimney. I figured I could not have earned the money at farm work in the same amount of time to have paid skilled labor for doing it. You notice that little building right near the house? That is my workshop. It contains my tools. And this building is one of the most used buildings about the place. Out of my work in this shop I have sent many kinks into the Headwork Shop of FARM AND FIRESIDE."

I could see that the work which has made the place a very comfortable farm home had not been done all at once.

He has been a friend of FARM AND FIRESIDE for many years. Had he named his farm? That question came to my mind.

"Yes," he replied, "as our home became more dear to us we called it Worthmore Farm. We have used this name as a guide too, and have tried to live up to it. Both timber and fruit trees have been planted, buildings erected, and painting done. Through it all we have been most fortunate. Serious sickness has never come upon us, and during the seven years we have been here, moderate prosperity has attended our efforts. We are glad we live on the farm."



This simple West Virginia home has been made a place of delight

One Hundred Farm Hens

By A. F. AMES

THE chicken house here described I have used successfully for several years. It is 16 by 24 feet, 6 feet high in front and 5 feet in the rear. The gables and roof are shingled. The back and ends are made practically air-tight.

It is divided in the center by a tight board partition. The right-hand end is used as a roosting and nesting room, the other for an open-front scratching shed enclosed in part by chicken netting.

The roosting-room is boarded 2 feet from the floor, and above this the opening is covered with chicken netting. There is a muslin-covered frame hung on hinges at the top which can be let down to keep out the snow and wind in bad weather. When not so used it is hooked up to the roof. This arrangement allows plenty of light and ventilation.

Extending across the rear of the roosting-room, 2½ feet from the floor, is a dropping platform 6 feet wide. One foot above this platform are five roosts placed flat on removable supports for convenience in cleaning and disinfecting them for lice.

The whole space of both floors is available for scratching and exercise. The dry-mash hoppers are placed up from the floor in the roosting-room. The nests and all interior fixtures are simple in construction and easily cleaned.

This building is designed for a busy farmer who handles hens only as a side issue. The floor is of dirt, but I realize dirt floors are not always practicable.

Last year I kept 100 hens, and during the summer they have the run of the place and get plenty of green feed.

My hens are not pampered or fed high-priced feed, nor given any special care. They are fed and watered twice a day, one feed being a warm vegetable and grain mash in winter. Wheat bran is kept in the mash feeder all the time.

My account for last year follows:

RECEIPTS

838 doz. eggs at 15c to 40c	$165.20
212 lb hens at 11c	23.32
165 lb broilers at 12½c	20.63
75 lb for our own table at 12½c.	9.37
	$218.52

EXPENSES

500 lb cracked wheat at $1.10 per cwt.	$5.50	
50 lb bone meal and oyster shell at 5c	2.50	
1000 lb bran	12.50	
1450 lb oats	14.50	
2500 lb wheat	27.50	
Interest and depreciation at 10 %	10.00	
Total		$72.50
Net profit and pay for labor		$146.02

The hens sold have been replaced by pullets, so I have a few more now than at the beginning of last year. The eggs consumed at home are credited at our Idaho market prices.

A New Invention Makes Rubber Footwear Give Almost Unbelievable Wear

The United States Rubber Company has invented and patented a new vulcanizing process for footwear. It is called "The Patent Pressure Process."

The Patent Pressure Process consists of vulcanizing in air-tight compartments into which carbon-dioxide gas is forced, and a certain heat and pressure maintained for several hours.

As a result, the rubber compound is forced into the fabric, and points where the various pieces of the boot or shoe join, are made as strong as any other part of the boot. Think of it—the new Pressure Process makes rubber footwear just as staunch and as durable as though made of one piece. Moreover, the rubber compound is toughened to a remarkable degree.

The amount of extra service that boots vulcanized by the new process give, is almost unbelievable.

Buy a pair of Patent Process rubber boots or shoes. You will be amazed by the extra wear that has been vulcanized into them.

Standard Color black; also made red or white.

Nearly all reliable dealers sell United States Patent Pressure Process Heavy Service Rubber Footwear. If your dealer has none, write us telling what kind of boots you wear and we will see that you get supplied. Look for the United States Seal; insist upon it. It is only placed upon boots finished under this new extra-wear process.

United States Rubber Co., N. Y. City

IN A SHADOW

Tea Drinker Feared Paralysis.

Steady use of either tea or coffee often produces alarming symptoms, as the poison (caffeine) contained in these beverages acts with more potency in some persons than in others.

"I was never a coffee drinker," writes an Ill. woman, "but a tea drinker. I was very nervous, had frequent spells of sick headache and heart trouble, and was subject at times to severe attacks of bilious colic.

"No end of sleepless nights—would have spells at night when my right side would get numb and tingle like a thousand needles were pricking my flesh. At times I could hardly put my tongue out of my mouth and my right eye and ear were affected.

"The doctors told me to quit using tea, but I thought I could not live without it—that it was my only stay. I had been a tea drinker for twenty-five years; was under the doctor's care for fifteen.

"About six months ago. I finally quit tea and commenced to drink Postum.

"I have never had one spell of sick-headaches since and only one light attack of bilious colic. Have quit having those numb spells at night, sleep well and my heart is getting stronger all the time."

Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.

Postum comes in two forms:

Postum Cereal—the original form—must be well boiled. 15c and 25c packages.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water and, with cream and sugar, makes a delicious beverage **instantly.** 30c and 50c tins.

Both kinds are equally delicious and cost about the same per cup.

"There's a Reason" for Postum.

—sold by Grocers.

A low-priced outdoor paint

Everjet is a pure black carbon paint that neither cracks nor scales.

Better paint isn't made anywhere at so low a price.

For metal, wood and roofs.

Write today for free booklet.

BARRETT MANUFACTURING CO.

New York Chicago Philadelphia Boston St. Louis Pittsburgh Detroit Cincinnati Kansas City Cleveland Minneapolis Salt Lake City Seattle Birmingham

A 12 Year Old Boy or Girl can do more and better work with this

Handy Cultivator and Weeder

than three men with common hoes. Price $1.50 express prepaid. AGENTS WANTED

Ulrich Mfg. Co. 7 River St., Rock Falls, Ill.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore.—Adv.

Upkeep of buildings pays as well as upkeep of land. Good paint is as important as good fertilizer. The best thing in paint is

Zinc

It makes paint do more and look better.

Let us send you a list of manufacturers who make ready-mixed Zinc paints, and a copy of the booklet, "*Your Move.*"

The New Jersey Zinc Company
Room 451, 55 Wall Street, New York

Farm Notes

Why Fencing Pays

By Neil Clark

THE greatest drawback to agriculture here in Virginia where I live, as well as in surrounding States, is that live stock and a systematic rotation of crops are not appreciated. A tract of "old field"—which is a piece of land that produces broomsedge, sassafras, briers and gullies—is fenced in and that is made to do for a permanent pasture. The rest of the farm is put in cotton, tobacco, or corn. The stover and shucks from the corn take the place of hay, and in the springtime, hay or threshed timothy straw is fed when the shucks give out.

Fences that will confine horses and cattle are not very expensive, and most farms in my section have sufficient cedar and locust growing to furnish all necessary posts. Four strands of barbed wire will answer the purpose, but woven wire is better, as that permits you to keep sheep, which no Southern farm should be without. I believe in fencing the whole farm into fields of convenient size, and planning a systematic rotation of crops in which legumes, particularly cowpeas and crimson clover, have a prominent place. Unless the hills are too steep to cultivate, pastures belong in the rotation. Sow rye and crimson clover for winter pasture. It is particularly good for sheep. But keep all stock off when the land is wet.

On mild winter days when there is not much else to do, get out, cut, and haul posts and do all the fencing you can. The amount invested in wire and staples and a good wire stretcher will be a first-class investment.

Grow feed all you can; save all you grow; feed all you save, and return the manure to the land. Work all the land into a rotation in which the good of the land is taken into consideration as well as the pocketbook of the owner. Include pasturage in the rotation and plow up your permanent pastures if practicable. You will then be started on the road to prosperity.

Snow Didn't Stop Him

By W. F. Muse

W. E. BOUCK is the early bird in the King road-drag flock in Cerro Gordo County, Iowa. On March 26th he dragged a mile and a half of road four miles north of the city in the vicinity of Freeman, and three days afterward it was the best and driest strip of dirt road in the county.

He did not wait for the snow to disappear, but dragged snow and dirt and mud altogether, and the result is wonderful.

The carrier on the rural route on which Mr. Bouck lives declares that if all the farmers had followed Mr. Bouck's example he could be driving an automobile on his route without fear of miring or other difficulty.

Buncoed Several Times

THE old and ever-fascinating game of catching suckers is constantly being played by wily fishermen the country over.

This recent experience of a Gulf coast State is related by Mrs. D. H. Rust, a resident of a county "fished" over:

"A few weeks ago our community, and in fact the whole rural population of the county, was canvassed by two men who claimed to be noted opticians. They sold one or more pairs of glasses at every house where one of the inmates wears glasses. The price was: Cheap glasses, $10; best glasses, $20.

"These glasses are just such as a local optician sells for $2.50 to $5 a pair. Although the cry of 'hard times' is in the mouth of every farmer, these 'doctors' carried off enough cash to keep themselves in first-class style for many months.

"In the spring of 1912 an agent traversed the country selling patent medicines, salves, liniments, etc. He told his customers he would notify them by post what day to meet him in town the following November for their goods.

"Strange to say that, although our little town can boast of only three hundred inhabitants and the surrounding country is settled up by 'one-horse' farmers, that patent medicine man stood on the station platform that November day and collected $1,000 at a moderate estimate. He stopped in every little town on the railroad for collections, and must have relieved our county alone of $10,000. These are only two instances, but there are many others."

SWEDEN has stopped the exportation of horses and wool.

THINK of your live stock every time you quench your own thirst.

CHICKEN POX in poultry can now be prevented and controlled by vaccination.

MONTANA is getting to be a dairy State. It has 44 good-sized creameries.

A MINNESOTA man sows rape and millet together and gets a balanced-ration hay out of it.

CANNING-FACTORY promoters are abroad in the land. Their scheme is about the same as that of creamery promoters.

New Books

THE KEY TO THE LAND, by Frederic F. Rockwell, unlike the stories of most of the back-to-the-soil advocates, shows the unceasing labor, planning, and perseverance required for the uninitiated to succeed in farming. It holds the reader's interest also. Harper & Brothers, New York City. Price, $1 net.

THE IMPLEMENT BLUE BOOK contains alphabetical lists giving names and addresses of hundreds of manufacturers of farm implements. Some remaining 1914 copies will be sent to anyone making application to The Midland Publishing Co., St. Louis, Missouri, if 20 cents is enclosed to cover cost of mailing.

HEREFORDS, A SHORT STORY OF THEIR EARLY HISTORY, is the title of a 32-page booklet published by the American Hereford Breeders' Association. It also contains some interesting feeding and breeding results. This booklet is distributed free by the office of the Association, 1009 Baltimore Avenue, Kansas City, Missouri.

USE OF WATER IN IRRIGATION is the title of a new book by Samuel Fortier, an official in the U. S. D. A. He deals extensively with the lands open for settlement by the Government and private enterprises. The various reclamation projects are discussed, as are also the means for preparing land for irrigation. 257 pages. Illustrated. The McGraw-Hill Book Company, New York City. Price, $2.

The Rose-Breasted Grosbeak—By F. S. Mathews

AMONG all our woodland birds there is none more beautiful, and few are gifted with a more charming voice.

He is easily recognized if you get a good view of him. Coat of black, wings with distinctly defined white blotches, breast of ivory-white, and on the upper part of it a more or less triangular area of rose-lake, a color in no respect like that of the scarlet tanager. These two birds may be easily confused in case you should happen to hear and yet not see them.

There is a certain reedy quality to the voices of both, a sort of slow-going mixed tone not at all like the nervous, vivacious note of the clear-voiced robin. You can, however, always tell the rose-breasted grosbeak's voice from that of either the scarlet tanager or the robin, both of which birds sing in a broken or disconnected warble; but there is scarcely a recognizable interval in the rose-breasted grosbeak's song—it is characteristically uninterrupted from its beginning to the rising inflection at the end.

There is an old legend connected with this bird, which relates that he perched upon the blood-stained cross where hung the Savior of the world, tried to cheer the divine sufferer, and ever afterward carried on his breast the beautiful though sanguinary token of his sympathy.

The rose-breasted grosbeak comes in May and stays until September.

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Wanted to Hear from Owner of good farm for sale. Send cash price and description. D. F. BUSH, Minneapolis, Minn.

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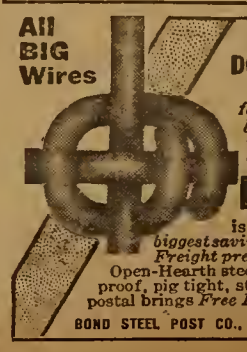

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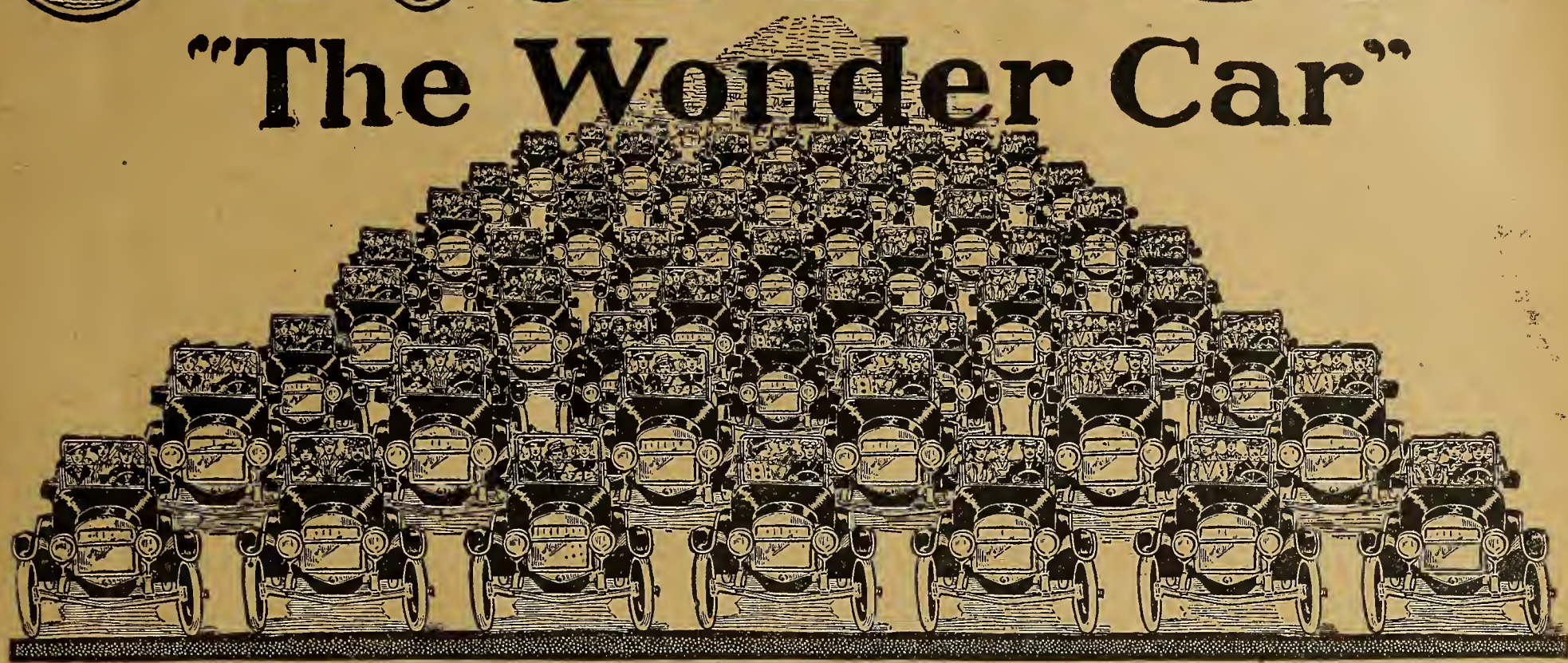

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If you have any neighbors among these 38,000 happy owners, ask them to tell you all about their experience with their Maxwells.

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FARM AND FIRESIDE

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HERBERT QUICK, - - - - - - - Editor

May 8, 1915

Prepare For War?

WE HAVE just passed through a great war.

It was a war for the salvation of our live-stock industry. The enemy was foot-and-mouth disease.

It found us unprepared, and was badly fought. It cost the state and national governments millions in cash, and the nation uncounted millions in its indirect losses. The farmers will not fully recover from the blow in years. We have won the war, but the cost has been enormous because we were not prepared for it.

This same war will break out again. Unless we learn the lesson it should teach, it will be badly fought next time, and the losses will be both crushing and useless.

Let us prepare for the next war now.

Such a war should be won while it is a small war. The first outbreak should be discovered and stamped out at once. Congress should devise some way to do this.

Germany had a plan of campaign worked out to the last detail for the war of 1870, and for this war. All that was necessary was to pull the plans from a pigeonhole and the armies began to move. Our Government should have a plan mapped out with equal detail for fighting, not only foot-and-mouth disease, but every other plague which affects live stock.

When the news comes in that any such contagious disease has appeared, there should be a pigeonhole in Washington and in every state capitol containing the plan of campaign. It should be prepared in every case with true German thoroughness.

It pays to do this in the wars of slaughter and carnage. It will pay still better in a war of peace. Let us be as wise and forehanded in our struggles to feed mankind as we are in our plans to destroy them. In such things lies the true grandeur of nations.

Rat-Catching

THE death of John Dalton at Southwark has created a mild sensation in England. He had made a fortune as a rat catcher, and died wealthy at the age of ninety-one.

For two hundred years the Dalton family have been rat catchers, and were awarded many fat contracts for ridding wharves, ships, warehouses, and other premises of rats. They claim to possess a secret method passed down from father to son and carefully guarded. Mr. Dalton rode in a fine carriage and kept a coachman. He could occasionally be seen coming out of a building carrying a bag of rats in his hand, which he handed to his coachman, and, it may be guessed, washed his hands of them at once.

The rat is the worst animal enemy of the human race. He is the most cunning of beasts. He can live wherever man can exist, and has learned to meet human intellect with a resourcefulness as great as human efficiency. He ruins billions of property yearly, and kills millions of human beings by carrying germs of bubonic plague and other diseases.

If there is a secret method by which the rat can be vanquished the Government could do no better work than to pay for it and make it public. Probably the proposal to endow a chair of rat-catching in our colleges would be laughed out of court, but there are many learned doctors who would be better employed than they are now if they were discharging well the duties of Dalton, Professor of Rodent Extermination.

We Have Corn

WE SHOULD get rid of the notion that wheat is the only proper bread-making material. Corn makes a better and more nutritious bread. If we were obliged to choose between the two we should be wise to take the maize and eschew the wheat.

A little scarcity of wheat would be a good thing if it resulted in making the American people acquainted with the food value and delicious flavor of our greatest grain crop.

Wheat alone is a very much poorer food than corn alone, as shown by tests made in Wisconsin. Then there is rice—an excellent food, and neglected by Americans. Cottonseed flour is good, and could be made to sell for less than wheat flour.

Moreover, people living in the West and Southwest can assure the world that in milo maize, kafir corn, feterita, and other grain sorghums we have the source from which delicious and nourishing flours are made, and can be made in immense quantities.

What the American people need, we sometimes think, is a good starving in order that they may learn to utilize foods which are at the same time plentiful, cheap, nourishing, and delicious, and which they neglect largely through the blinding effects of habit.

The Schoolhouse

MANY a rural schoolhouse is a disgrace to the neighborhood which tolerates it. There are several heads under which the disgraceful condition of these buildings and their grounds might be listed, but the one which should appeal to every person as disgraceful is the lack of sanitary protection for the health of the children.

Have you not heard many a mother speak of the fact that her child "can't stand it to go to school"?

Of course not.

Lack of sanitary precautions about schoolhouses is a fruitful source of hookworm in the South, and many fevers and contagious diseases everywhere. Tuberculosis is one of the terrible infections spread by such neglect, and typhoid is another.

People desiring to study this matter may obtain from the United States Bureau of Education at Washington its Bulletin No. 12, which describes the simplest and best of the sanitary requirements every rural school should have. It tells, too, those which no school is safe without.

Every rural dweller should read this bulletin and think on it.

Wheat Prospects

ONE can never tell until harvest what the yield will be.

An Iowa farmer a few years ago had about a hundred acres of winter wheat which seemed to have been ruined by the winter. He started to plow it up, and when twenty acres had been plowed he was interrupted by weather. Before resuming the job, he looked at it again and found it improving. Work being of a pressing nature, he let the other eighty acres stand, and harvested a crop of 34 bushels to the acre.

It was a matter of weather. The crop stooled and stooled, and there were ten heads where it looked as though there might be one or two.

Wheat has great powers of recuperation if the season is right.

Oklahoma Rural Credits

THE State of Oklahoma has a great deal of cash in a fund derived from the sale of state lands, and has passed a law providing for the loaning of it for the purchase and improvement of farm homes.

These loans may not exceed $2,000—which would be too small were it not for the fact that Oklahoma lands are not yet as high in price as those of some other States.

Interest will be at 6 per cent, with two payments a year of 4 per cent each. This discharges the interest and gradually pays off the principal.

The State will issue rather long-time bonds in denominations of $25, $100, $500, and $1,000 against these mortgages, or sell the mortgages themselves. The bonds bear 5 per cent interest and, backed up by the State, ought to be attractive to small investors.

The system will not be in effect for some time, but it promises to be an excellent thing. It shows that any State may proceed in its own way in the matter of rural credits.

Now if Oklahoma will pass an act emancipating the farmers from the chattel-loan incubus, farm life down there may take on added attractiveness.

Our Letter Box

Believes Mr. Matthes Will Win

DEAR EDITOR: I have been reading the letter of Paul Matthes, and although you ask only the men to write, perhaps a little of my experience would not be altogether out of place.

Four years ago, through a combination of circumstances we could neither avoid nor prevent, my husband and I lost all we had but each other, the children, and forty acres of Missouri land we had never seen, and money enough to get us to it. We decided to do our part toward making a home of it.

The first year we lived in the town nearest our land, and when my husband could get no work to do in town we would walk out and saw logs for the lumber for our house. It was a three-mile walk over rough roads, but finally we got our lumber and built our little house in the woods. And never in all our twenty years of married life had we been happier than when we worked so hard to get that little home started, for we had reached that point where we knew that so long as we had each other and the children nothing else mattered very much.

We had been in the little home just one month when my husband died of pneumonia. At that time I think the imperative needs of my children and the hard, rough work in the open air were all that kept mind and body together for me; but I was forced by necessity to work hard and constantly, and as I became less dazed I knew that he would like the little home to be made just as perfect as we had planned together that it should be. So I have worked as few women do work. Worked away from home to earn the necessities of life, and at home, clearing land, grubbing, building fences, digging hotbeds, building outbuildings, putting out fruit trees, berry vines, and flowers as fast as I could get them, and raising all the garden I could to help out on the living.

This spring I have about three acres to cultivate, and this I do with a wheel hoe and the help of my little boy, and I am planning to make that three acres just about furnish our living this summer, give me all the berries and vegetables I need for next winter, and grow the feed for one hundred hens and a cow, if I can be so fortunate as to make enough off the bees to buy one this fall.

Mr. Matthes is stunned by his misfortune, and is more in need of wholesome sympathy than anything else. He probably has live stock and tools to work with, and, best of all, his family to work for; and he has the practical knowledge of making a home. If those rocks are of the same species as the ones we have here they will make the most beautiful and durable of buildings, and it has to be pretty solid rock if dynamite won't loosen it up so fruit trees will grow.

The owner of the forty he has improved is too mean to be outside the penitentiary if he doesn't let him continue to live there until he gets a start on his own forty, and give him some consideration for the improvements he has made besides.

I predict that Mr. Matthes and his family will gather their forces together and come through this trying ordeal all the bigger and better for it, and will certainly have gained something in the line of business experience; and I know they will have the hearty sympathy and good will of the FARM AND FIRESIDE readers while doing it. MRS. M. B. A., Missouri.

Tough on the Legislators

DEAR EDITOR: Do you not think it would be a good idea to have petitions circulated in every county in the State to have the legislature done away with, and let the lobby make the laws? This would save thousands of dollars, as the legislators do nothing but draw their pay and vote to increase their salaries. I think it is time that the voters are getting waked up and do away with one nuisance. C. Y., Ohio.

Something Needs Changing

FARM AND FIRESIDE: I look through the classified columns of the farm papers, and I see, under "Situations Wanted—Male," beginnings such as "Position Wanted as Farm Superintendent:" and I see, under "Male Help Wanted," beginnings of this sort, "Wanted—Reliable farm hand." Here are two rather different tones. It seems that the "fancy farmers" are all out of jobs, and the jobs are all for the ordinary farm workers.

Isn't there something wrong with this system of supplying work? The high-priced men are forced to advertise themselves flashily, while the men who need such help wait needlessly, hoping without hope to meet their man some day. Thus both sides are at it in the wrong way—the one making claims which are hard to believe, the other trusting to nothing but the "actual seeing," and wasting time that could be used.

We need a *big* employment bureau, one that personally investigates every claimant for a job and every employer, so that either can, through this bureau, learn just what the other is and wants, and choose intelligently on accurate information. There are thousands of jobs open and thousands of competent workers which could be joined together satisfactorily by just such service.

PHILIP MARSH, New Hampshire.

Who Knows?

EDITOR FARM AND FIRESIDE: I want to ask your help in finding the old-time Spanish potato. We raised them years ago, lost seed, and cannot hear of them anywhere.

At one time they were common here in the South, but seem to have disappeared.

I am anxious to get seed, or slips to set out later on.

MRS. M. F. MATHEWS, Arkansas.

Life is Interesting

DEAR EDITOR: When my husband's physician ordered him to give up all indoor work and live "entirely outdoors," I was filled with dismay. Though we both loved the country, we realized on behalf of our children the educational advantages we should lose on leaving the little college town. For me the social life was hard to give up, also. My girlhood had been spent in the country and I knew what was before me.

The rural neighborhood I found was "dull." Churches had gone down, no Sunday school; the public school was neglected and social life ignored. The lack of incentive for mingling, the manifold duties of farmer folk, and the bad roads combined to keep these people isolated and their life a monotony. This was particularly true of the women. I soon found that denominationalism kept many from working together religiously. I helped revive the Sunday schools, joined the Mason County Woman's Club and the Health League; but none of these solved the problems which troubled me.

When the aged subdistrict school trustee resigned, recommending my husband for the vacancy, I hoped to help raise the standard of the school. Having heard of a successful young teacher who could be secured for $50 a month, I persuaded my neighbors to supplement the $42 monthly salary provided by the State, to make up the $50. The success of this was encouraging, and the idea of a general "getting together," like those we read of in FARM AND FIRESIDE, began to form in my mind. I wrote for suggestions to Dr. A. P. Bourland of the Southern Educational Congress, Hon. J. N. Camden of Versailles, Miss Margaret Wilson, daughter of the President, for her "Social Center Magazine," the Department of Education at Washington, the National Council of Women, and the Kentucky Federation of Women's Clubs; also to our county agricultural agent, Mr. A. M. Casey, and our superintendent of schools, Miss Jessie O. Yancey. From all I re-

ceived encouragement, pamphlets, and bulletins. Among these was a copy of the proceedings of the Kentucky Educational Association, in Louisville, April, 1913. It contained a report by Miss Mary Edmonds of Glasgow, describing a "Community Club," which became my ideal.

The plan was to bring the people together socially, stimulate them mentally, and, by getting acquainted, gain confidence in each other and thus lead to cooperation which would benefit them both socially and financially. We organized a society with seventy-five members enrolled at the first meeting.

We have had mixed programs, music, recitations, speeches, spelling bees, debates, talks on rural topics, lectures by physicians, and a general exchange of ideas. One mother described her idea of a "sensible harvest-day dinner for eight men," and a young student explained "the use of the split-log drag." We have tried to have subjects tending to inspire us to want better schools, better homes, better crops, better farms, better stock, better roads, better people.

If we succeed in getting people to desire better things and to have more confidence in each other, our efforts have not been in vain.

MRS. G. W. H., Kentucky.

Record Deeds Properly

EDITOR FARM AND FIRESIDE: Having abstracts examined carefully by a trustworthy abstracter, and having deeds recorded properly with the correct descriptions, when a tract of land is purchased, may avoid much trouble and possibly may pay dividends.

Nearly thirty years ago I recorded papers that I supposed were the deeds to two tracts of land I had bought. Twenty years later a neighbor discovered a part of one of the tracts had been recorded as being a tract of land a mile from its proper location.

This mistake caused me to look up the registration of the deed of the other property I bought at the same time. The county records showed me owning only one half of the tract of land I had purchased thirty years ago. Both of these deeds I had recorded properly with correct descriptions.

Some time ago I bought a 40-acre tract of land for my brother, and a 40-acre tract for myself. One of the tracts adjoined land I owned. The land agent said he would have the deed to that 40-acre tract made to me. By mistake he had the deed made out to my brother. I didn't discover the mistake until gas was discovered on the tract.

S. R. AHRENS, Arkansas.

"As Others See Us"

THINGS wouldn't go right on the farm without FARM AND FIRESIDE.

W. A. FOUT, West Virginia.

I TAKE great pleasure in reading your editorial ink drops. I think you are a Horace Greeley, Second.

G. W. N., Connecticut.

I AGREE with you, Mr. Quick, on the dog-law question, only I would put a heavier tax on worthless dogs.

I. A. T., Missouri.

IT SEEMS that for every little trouble that bothers us on our little ten-acre farm we find a remedy in FARM AND FIRESIDE. MRS. J. B., Indiana.

I WISH you could use a broad-tired wagon on the clayey hills of Butler County for one winter, and then write an article on broad tires!

J. M. GRIM, Pennsylvania.

My husband had so many expenses that he hardly saw the way to renew the subscription, so I am renewing it myself. I hope we may be lifelong friends.

MRS. F. A. C., Ohio.

ONE of your editorial comments on dogs appealed to my notions on the subject, and I hope to see in FARM AND FIRESIDE equally strong arguments advocating a tax on cats.

A. P. S., New Mexico.

We could not think of being without good old FARM AND FIRESIDE. It tells us so many good things; like a good true friend it never fails us. Long life to our good editor, and three cheers for "The Brown Mouse." MRS. U. E. P., Idaho.

The whole family is anxious to see each issue, and can hardly wait for its coming. As long as we can take any paper we shall take FARM AND FIRESIDE. We have missed only one year since our married life began, and my husband took it before we were married.

MR. AND MRS. J. H., Kentucky.

War and Temperance

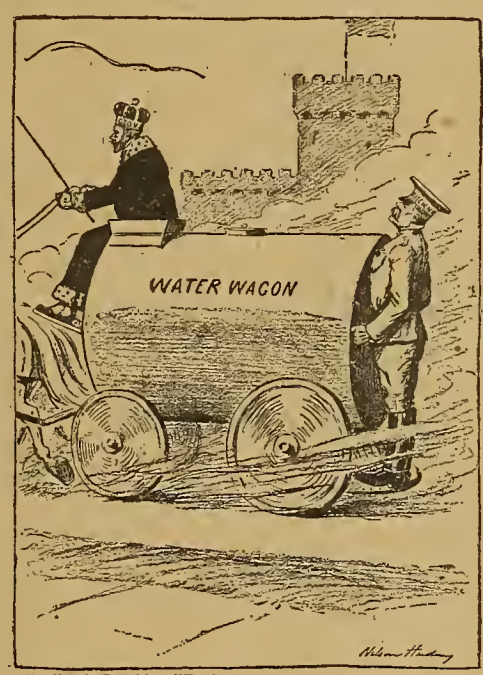
Richards in Philadelphia "North American"

The common enemy

OUT of the war now raging will come some good. It will lead the nations everywhere to greater efficiency. How? The cartoonists on this page tell you the answer. They are picturing the sentiments of the people. They are pointing out the fact that in these foreign lands the common people are for the first time freed from the enemy which has been taking away from them their efficiency.

We have said before that war calls for efficiency, and that efficiency and drunkenness do not mix.

A physical struggle like the present one demands strong bodies and clear brains. Russia found that she could not get what she wanted as long as she tolerated the drink habit. She did away with it with one stroke of the official pen. France has prohibited the manufacture or importation of her worst drink—absinthe. The Japanese, seeing the signs of the times, did as these others had done, and stopped drinking to such an extent that the breweries of the country have lost much of their trade since the war began. Great Britain and Germany seem to be moving in the same direction. George V has joined Secretary Bryan's "Grape Juice Club." As far as he is concerned there shall be no "drinks" in his household.



Harding in Brooklyn "Eagle"

The royal coach

All of this is a fight against a common enemy, an enemy that has reduced the efficiency of these nations who now feel they need the last full measure of their strength.

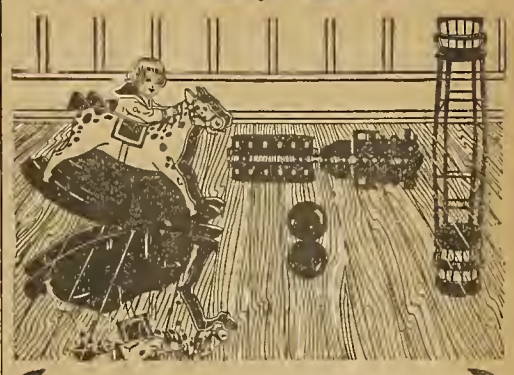
Thinkers in every civilized country are watching for the next move. What will it be? Whether we can answer that or not, we may feel sure that to-day, as perhaps never before, the watchword of mankind is that that government is most successful which can produce the greatest good for the greatest number.

The verdict of the fighting nations is that drunkenness does not contribute to the good of the greatest number.

Kirby in New York "World"

Welcoming a new member

CAMPBELL'S VARNISH STAIN



People are finding out more and more each year what a wonderful finish Campbell's Varnish Stain is for floors, furniture, and all interior woodwork; but although tests show Campbell's to be the most satisfactory Varnish Stain ever produced, we want more people to know about it, hence this advertisement.

We are anxious to tell you about it because we know what it will do. We absolutely guarantee satisfaction with every can.

Stains and varnishes with one sweep of the brush. With it you yourself can fix up that little job whether it be floor, table, chair, or what not

Get Campbell's and get satisfaction.

If your dealer cannot supply you we will send a half-pint can (any color), enough to cover 25 sq. ft. 2 coats, together with a handsome Fly Swatter, prepaid, for 25c. in stamps, providing you enclose your dealer's name with order. Name color desired.

13 COLORS natural wood, light oak, dark oak, walnut, cherry, mahogany, green rosewood, white enamel, flat black, gloss black, piazza green, and piazza red. Also ground color and surfacer for graining.

All Sizes; ¼ Pints to 1 Gallon.

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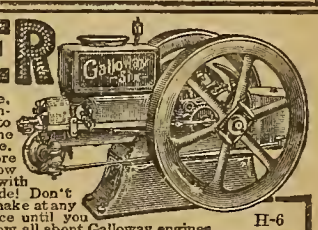
Carpenter-Morton Co.

ESTABLISHED 1840

95 Sudbury Street, Boston, Mass.

POWER



Economical, reliable, steady, satisfactory engine service built into every Galloway gasoline and kerosene engine. Heavy weight, large bore and long stroke low speeded. Compare it with any engine! Then decide! Don't buy an engine of any make at any price until you know all about Galloway engines. H-6

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Handy, Automatic HAME FASTENER

Do away with old hame strap. Horse owners and teamsters wild about them. Fasten instantly with gloves on. Outwear the harness. Money back if not satisfactory. Write today for confidential terms to agents.

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Roofing

—Our leading product—is guaranteed 5 years for 1-ply, 10 years for 2-ply and 15 years for 3-ply. We also make lower priced roofing, slate surfaced shingles, building papers, wall boards, out-door paints, plastic cement, etc. Ask your dealer for products made by us. They are reasonable in price and we stand behind them.

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Put your ear close to the ground

every time you see a man drawing real joy out of a jimmy pipe, for it's better than five-to-one he's smoking Prince Albert tobacco.

You, like a whole lot of men, never will know what pleasure can be dug from a pipe until you smoke Prince Albert! For it *can't* bite your tongue, and it *can't* parch your throat. That's why men *know their business* when they demand

PRINCE ALBERT

the national joy smoke

You should know this brand is made by a patented process that removes bite and parch. You can fire-up P. A. until the cows come home and it just won't make your tongue tingle!

Copyright 1915 by R. J. Reynolds Tobacco Co.

Let the light of jimmypipejoy break into your soul. You'll wonder why you didn't wake up earlier and hear the robins sing in the old cherry tree.

Here is Casimiro Irado, 104 years old, who lives in Watsonville, Cal. Irado has been a smoker all his life, and today seeks no truer friend than his old jimmy pipe. Irado has just been elected a member of the P. A. "old-time jimmy-pipers club."

Prince Albert is sold everywhere in toppy red bags, 5c; tidy red tins, 10c; pound and half-pound tin humidors and in that fine crystal-glass pound humidor.

R. J. REYNOLDS TOBACCO CO.
Winston-Salem, N. C.

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Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits.

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By CHECKED HEAD is Meant

a pattern on the head of a horse nail formed by lines crossing each other diagonally.

Every real "Capewell" nail has this Trade Mark. Insist upon its use by your shoer.

Not cheapest regardless of quality, but best at a fair price.

Saves needless expense to use the best in horse nails.

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for thousands of farmers. And I've got the cost down so low that I can give you a perfect, economical milker at a price that will astonish you. You can milk in the most sanitary way and save time, money and work with a

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Sit right down and write today for my **Free Illustrated Book.** I want you to know all about what I have spent years in developing for your benefit. Simply say in a letter or on a postal: "Send your FREE BOOK telling how to make more money with cows."

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Only $2 DOWN and One Year To Pay

For any Size—Direct from Factory

You can now get one of these splendid money-making, labor-saving machines on a plan whereby it will earn its own cost and more before you pay. You won't feel the cost at all.

$24 BUYS THE NEW BUTTERFLY

No. 2 Junior—a light running, easy cleaning, close skimming, durable, lifetime guaranteed separator. Skims 95 quarts per hour. We also make four other sizes up to our big 600 lb. capacity machine shown here—all sold at similar low prices and on our liberal terms of **only $2 down and a year to pay.**

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30 DAYS' FREE TRIAL GUARANTEED A LIFETIME

You can have 30 days FREE trial and see for yourself how easily one of these splendid machines will earn its own cost and more before you pay. Try it alongside of any separator you wish. Keep it if pleased. If not you can return it at our expense and we will refund your $2 deposit and pay the freight charges both ways. You won't be out one penny. You take no risk. Postal brings Free Catalog Folder and direct from factory offer. Buy from the manufacturers and save half. Write TODAY.

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Live Stock and Dairy

Why Feed Silage

By W. E. Morton

GOOD corn silage is next best to the natural food of cattle—namely, green grass. It contains all the food elements of grass and in nearly the same proportions, with the exception of the protein or muscle-building element, which is about one per cent less in silage than in grass, and must be supplied by feeding clover, alfalfa, bran, or any feed which will supply the missing element. Then, too, silage is a succulent feed like grass, and easily digested.

Taking a dairy cow from the fall pasture and putting her to a diet of timothy hay, bran, and other dry forms of feed is the same in effect as depriving a person of fruits or green vegetables and allowing him only a ration of salt pork and hardtack. It is small wonder that the cow so treated falls off in her flow of milk: the change in food has thrown her system out of stride, so to speak, but a change from grass to corn silage is so slight that her flow of milk continues almost without interruption. The succulent silage keeps her digestive organs in a normal condition and gives her the same food elements in about the same proportions that she has been used to in the pasture.

Corn in silage makes the crop go one fourth farther.

When corn is fed whole the greater part of the stalk is left untouched and the stalk contains about one fourth of the food elements of the plant. The waste is somewhat less when the corn is cut up or shredded, but the hard outer shell of the stalk is likely to cause sore mouth by getting between the teeth and the gums of the animal.

When made into silage the stalk, leaves, cob, and kernels become soft and juicy and the waste is practically nothing if a proper amount is fed.

Silage is easier to feed than cut stalks, whole stalks, or hay, and many times as much of it can be stored in the same space.

Most States have a soil and climate adapted to corn-raising, and other crops can be ensiled too. Ten tons of corn silage an acre is a common yield, while half that amount of timothy an acre would be exceptional.

Ten acres of corn will make enough silage to feed 20 cows 40 pounds of silage for eight months of the year, and this in turn means that the silo enables its owner to keep more cows on the same acreage than can be done without it.

Corn silage can be produced cheaply. The cost of making corn silage under favorable circumstances need not exceed $1.50 a ton, which includes cost of seed, preparation of the land, and cost of cultivating and cutting the corn and filling the silo.

A crop of silage corn is a practical certainty in most parts of the country, and is cut as soon as the kernels begin to dent. The land can then be put in shape for a fall crop. Sowing rye in the corn at the time of the last cultivation has been reported as a success in furnishing fall pasture, and the removal of the corn gives the rye an excellent opportunity to grow vigorously.

The use of silage in fly time enables the dairyman to keep his cows indoors, away from the flies, and obtain a much greater flow of milk than is otherwise possible.

Buttermilk From Skim Milk

By Mrs. Mary C. Blue

A FRIEND of mine having a dozen cows, and who was realizing but little from her skim milk, decided to try making and selling artificial buttermilk.

She procured a lactic-acid starter from a dairy supply house. This starter is the same as is used for souring cream to be made into butter.

From this starter she makes a supply of home-made starter. About a tablespoonful of the home-made starter is put into a quart of skim milk, and at this rate about a quart of the home-made starter is required for 10 gallons of skim milk. When the weather is cool the home-made starter is carried over from time to time for several weeks, but when the weather is warm the commercial starter is used as often as necessary to keep the starter in good condition.

My friend began selling the artificial buttermilk when a convention met in her home town. Later a restaurant contracted for all she made, and what was not sold in the restaurant was sold in the city.

Natural buttermilk is not as uniform in quality and of as fine flavor as can be made from skim milk. In order to get the best quality, this dairy woman is very particular to have every operation connected with stabling and milking of the cows and caring for the dairy utensils done in a cleanly manner.

One gallon of whole milk is added to 20 gallons of separated milk in order to supply the butterfat that is always found in small quantities in good natural buttermilk.

The separated milk is cooled and the starter added before undesirable bacteria begin to develop. The skim milk, after adding the starter, is kept at about 70 degrees Fahrenheit, so as to sour the milk quickly.

When the milk is thoroughly curdled it is placed in the churn, and churned as if for butter for about half an hour. When taken from the churn the buttermilk is strained through cheesecloth to remove any unbroken curd clots. It is then kept at a low temperature.

When made in this way, artificial buttermilk cannot be distinguished from the best of natural buttermilk.

A Business Goat

By W. S. Bensel

THE goat in the picture is "Nancy," the prize winner belonging to James S. Ottoway, a New York goatman.

Nancy is a fine, large, pure-white animal, and gentle as a lamb. She raised two kids last summer which sold for $10 each when eight weeks old. Her milk is

Nancy—the friend of sick babies

of excellent quality, rich and nourishing. When the kids were with her she gave on an average a quart at a milking. She is milked twice a day.

Nancy runs in a pasture and has corn and oats three times a day, with all the clover or alfalfa hay she wants, and also plenty of pure cold water. She knows her name and comes when called.

People having sick babies gladly pay 50 cents or more a quart for fresh goats' milk.

Demand for Sheep

By E. L. Vincent

THE other day I read that wool prices out West have reached the best figure in a great many years. Along about the same time something like this struck my eye: In the first week of March there were 76,682 less sheep shipped into the Chicago markets than in the corresponding week last year.

Anything back of this?

Is there any less demand for meat?

A bit curious to dig a little deeper into this, I learned that in the past four years—that is, from 1910 to 1914—the holdings of sheep in this country had fallen off nearly three million head. Seems to me it is a pretty good time to pay more attention to sheep.

No matter how things go across the water, there is going to be a big call for wool and mutton for a long time to come.

We all know something about the dog trouble. It has been a bad drawback, but when we take hold of it and solve the dog problem we shall have solved the sheep problem as well. I love a good dog myself. Most farms need one; but the lawless, unconfined dog is an evil.

On every farm that is situated right, a few sheep would be money-makers, provided they were good ones. A poor sheep causes only trouble.

Why Sore Shoulders?

LOOSE collars make more sore shoulders than tight ones. Use rather long hames, and squeeze the collar snug against the sides of the neck. Lift the collar up once in a while and let the breeze cool the shoulders off, just as you lift your hat to let the wind blow on your brow. Unharness at noon, and wash the shoulders with cold water at night. Get along without a sweat pad. Don't let the mane get under the collar, and see that it isn't wadded under the pad at the top of the collar.

E

Live Stock and Dairy

The Cows I Knew

By F. G. Smith

WHERE I lived when a boy (southern part of Michigan) I saw and milked many cows that were like old Shakespeare that you mention. Early breeders required stock that could rustle for a living and look well. Such stock generally had thick hides. Thick, tough hides and hard milking are apt to go together, especially in the case of light milkers.

Heavy milkers get the orifice in their teats stretched out more by milking than the light milkers do, so that often a cow in full flow milks easily and yet milks hard when nearly dried up.

Animals that foraged where they had no right were apt to get "dogged," stoned, and chased until their dispositions were ruined. Their young inherited this bad disposition.

Almost any bad quality can be bred out, and this includes hard milking. One must use the right kind of sires and then select the right ones of their product. But even then they will sometimes sport back, not only one but several generations.

In our case no special effort was made to get rid of the hard milkers. If a sire had size and looked well, that was satisfactory. We had lots of hard milkers until we could use better sires.

The probability of inheriting any bad quality depends on how strong that quality is in the blood of the dam, and how much opposition it meets in the blood of the sire and the number of good crosses. A pure-bred animal will generally influence the offspring more than the scrub or cross-bred mate can, so that bad qualities do not as a rule last long when pure-bred sires are used. The three-quarters bred often shows the granddam's qualities more than the half-bred dam does.

But this is by no means a sure thing, and sometimes we find grades that breed much stronger than pure-breds. For instance, Justin Morgan, Peter the Great, McKinney and Sidney Dillon, Hamiltonian 10, George Wilkes, Electioneer, Abdallah 15, were all of them celebrated trotting sires, and yet none of them was more than good grade in breeding.

In your case the cows "Shakespeare" and "Liney" must have possessed in a remarkable manner the ability to breed after themselves, as did the horses referred to above, and not meeting with any very strong opposition in the sires used continued to reproduce themselves as they did.

Whether I would breed from a hard milker or not, would depend on what her other qualities were.

You know, we never find many perfect cows to breed from, and so have to breed from many that have some defects, and as I do not consider that fault extra hard to breed out I should just as soon risk breeding that out as many other things that I do not like.

One of these is a bad disposition.

I should consider the sire I should be likely to use in case of this or any other defect. If he were strong in easy milking blood, the chances would be that the hard milking characteristic would not be so likely to appear in the calf as it would be if he came of a hard-milking strain, and this would be true of any other defect.

It often happens that defective animals rightly mated produce the finest offspring, while our most perfect ones are often a sad disappointment when we breed them.

If I ever see the time when we can breed only perfect animals and produce only perfect ones, I shall be very glad; but that time is not here yet. We have to do the best we can.

Stallions to Be Scarce

WHO knows how many pure-bred draft stallions there are in service in the United States? The figures are not available, but they are not very important. The important thing is that there are about 11,000,000 mares, and the supply of pure-bred studs from abroad is cut off.

What does this amount to? It amounts to a good deal. A certain number of new stallions come of age every spring to take the place of those which drop out of the breeding ranks. We have been importing about 9,000 pure-bred horses a year. Of these probably from 7,000 to 8,000 have been stallions.

Our home-grown supply has been about 6,000 young stallions each year. That is, we have been adding to the stallions in service more every year by importation than by our own breeding. This foreign supply is cut off permanently it seems.

Can the breeders so use their pure-bred stock as to meet the occasion? Undoubtedly they can do much.

Every pure-bred mare should be bred.

The old stallions should be carefully used over a longer breeding season.

We must not go back to scrubs; and as for the pure-breds, if we are to have them we must breed them.

Probably we shall get out of this dilemma strains of American pure-bred horses better adapted to our conditions than the imported ones have been.

Drenching a Hog

"THAT hog will die," I thought. He was a good hog too—worth a $20 bill. What the trouble was I couldn't tell, not being a vet; but whatever it was it kept him from eating, and he was rapidly failing.

I wouldn't have given a dollar for his chance to get well. And yet, I felt sure that if I could give him a cathartic he had a chance; but if he wouldn't eat, how could I give it?

I didn't know how to drench a hog. How many farmers do know? Most people say that the attempt to administer medicine forcibly to swine is pretty likely to choke them to death. Moreover, their powerful jaws will crush a bottle neck, and place the hands of the ministering owner in great danger.

A neighbor looked over the fence. I appealed to him in despair. "I wish I knew," said I, "how to give a hog medicine against his will."

"It's easy," said the neighbor. "Fix up your medicine and bring an old shoe."

I didn't wait to laugh at him, for I had a good deal of respect for his good sense. I brought the dose and the old shoe.

He cut some slits in the toe of the shoe, I held the hog and he stuck the shoe in its mouth. Mr. Porker squealed, chewed the shoe viciously, and when the medicine was poured into it by my friend the hog swallowed it as if he had been drinking from the trough.

In three days the hog was well, and in three months he was $20 worth of pork. A trick worth knowing—if one knows what ails the pig.—J. V. BOWDITCH, Iowa.

Another Milk Factory

FINDERNE HOLLINGEN FAYNE is her name, of Delavan, Wisconsin. Anyone reading the name knows that she must be a Holstein cow. Not even her owner, we suspect, will call her by it, and few will remember it. That's the disadvantage in such an abominable system of names as the Holstein breeders have fallen for. But Finderne, etc., is a great cow.

She gave four ten-quart pailfuls of milk a day for three hundred days. She yielded enough butterfat to make four pounds of butter a day for a milking year of three hundred days. Figure it yourself—24,612 pounds of milk, and 1,116 of butterfat. Allowing a 20-per-cent overrun, this enormous yield of butterfat makes nearer four pounds and a half a day than four.

Why the Cows Went Dry

A Story in Three Parts

Part III

The Sentimental Milker

I HAD a lazy milker who
Would dream of days gone by.
I didn't want to kick the lad,
And so I just went dry.

DE LAVAL SEPARATORS are not the mail order or farm implement kind

EVERY prospective separator buyer, as well as every user of an inferior cream separator, should always keep in mind that there is a very decided difference between the De Laval and either the so-called "mail order" or agricultural implement kinds of cream separators.

DE LAVAL Cream Separators may cost a little more than other separators to begin with, but they save this slight difference as a rule the very first month, and go on saving it every month thereafter, while they last from ten to twenty years longer than other machines.

The differences are self-evident

THE differences between De Laval and other separators are not difficult to see or understand and no one needs to be an expert to appreciate them. A De Laval catalog to be had for the asking makes them clear, and a De Laval machine itself, side-by-side with any other, does so better still.

EVERY De Laval local agent is glad to afford such an opportunity for comparison without cost or obligation to buy. If you don't know the nearest De Laval agent simply address the nearest office of the Company.

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These buggies are quality plus. They are made of second growth hickory, split, not sawed, and are the swellest turnouts that can be made. And besides my new 5% plan that cuts prices lower than ever, I offer you 30 Days' Hard Road Test and Two Years' GUARANTEE

That means that you prove all I say in your own way on your own roads and if you are not satisfied I take the rig back and stand all the freight both ways. It means that if you are satisfied I stand back of you for two years.

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The story of lower prices than ever and better quality work—the story of the most amazing manufacturing and sales plan ever worked out. Write your name on a postcard. Send it to me and you'll get the big book and my new 70 page Harness Bargain Book by first mail prepaid.

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"But its most special, personal benefit has been as a substitute for meat, and served dry with cream when rheumatic troubles made it important for me to change diet.

"Served in this way with the addition of a cup of hot Postum and a little fruit it has been used at my morning meal for six months, during which time my health has much improved, nerves have grown steadier, and a gradual decrease in my excessive weight adds greatly to my comfort."

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

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will remove them and leave no blemishes. Reduces any puff or swelling. Does not blister or remove the hair, and horse can be worked. $2 a bottle delivered.

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You still get the same high quality New Galloway Bath-in-Oil Cream Separator that has swept the field before it because of its clean skimming, its perfect mechanical design, smooth, oval sanitary surfaces, and years of built-in separator users' honest satisfaction.

It is made so good in our own factories that I will send it anywhere without an expert to set it up for a ninety-day test against any make or kind that even sells for twice as much and let you be the judge.

These new mid-summer cut and slashed prices last until we have sold 5700, because this is the factory capacity for the next ninety days. Write today. Do not buy a cream separator of any make or kind or at any price until you first get these new, low, mid-summer prices.

WM. GALLOWAY COMPANY Box 393, Waterloo, Ia. Shipped from Chicago, Waterloo, Kansas City, Council Bluffs or Minneapolis.

R-17

39.50

500 lbs. skimming capacity per hour. Oil splash lubrication; discs not fastened together, easy to clean. Self-centering neck bearing. Low speed crank. 50 R. P. M. Low speed bowl.

Skims a gallon a minute.

Poultry Raising

To Rear Cockerels

By James B. Morman

FIFTY-FOUR White Plymouth Rock cockerels made me a profit of 60 cents the bird. The cockerels were six months old, and averaged six pounds apiece in weight. The birds sold for 20 cents the pound live weight, which made a total of $64.80. The cost of the feed fed the cockerels during the six mouths was $32.40.

When three months old the cockerels were separated from the other chickens. The cockerels required less attention when in a pen by themselves, they became more contented, put on flesh more rapidly, and made a better table fowl. If cockerels are permitted to run with the other chickens they do uot make profitable gains, and the meat is not of the best quality.

The cockerels were fed this ration:

Breakfast: Wet mash, which consisted, by measure, of eight parts of bran, two parts of middlings, two parts of ground oats; and two times a week, one part of meat meal. This mixture was moistened with sour milk or water until the mass of feed crumbled easily. Scraps from the kitchen were added. Two times a week a handful of ground sulphur was included in the feed to purify the blood.

Dinner: Half-ration of wheat and oats, in equal parts.

Supper: Grain mixture, composed of equal parts, by measure, of whole corn, cracked corn, wheat, and oats. The supper ration was maintained until the cockerels were old enough to prefer the whole corn. Then cracked corn was omitted from the ration, and another measure of whole corn was substituted.

Weeds, lawn cuttings, and other green food were fed to the cockerels. A bountiful supply of fresh water, oyster shells, grit, and a dry sunny dust bath were provided for the comfort and the health of the birds. Every afternoon the fowls were given the freedom of a limited grass plot. The roosts in the barns were kept free from mites. The pens were cleaned once a week.

Cockerels are sold usually too young for the best financial results. Many poultrymen are satisfied to sell the birds regardless of profit. The young chicks need more care and grow less rapidly during the first two or three months. If cockerels are sold when two or three months old they do not pay for the cost of the feed fed to them. After cockerels are three mouths old, with proper handling, the birds can be made to pay for the extra feed and labor.

Not one bird of the 54 reared showed any signs of illness, and no losses occurred. This had an important bearing on the profits.

It does not pay to kill cockerels until they weigh four pounds. The White Plymouth Rocks I reared have averaged a weight of six pounds at six mouths old.

Cockerels do not need much care until the breeding season has closed. This enables a poultryman with a limited area of land and yards to increase the capacity of the pens and make room for a peu of the cockerels alone.

These White Plymouth Rock cockerels paid a profit of 60 cents the bird. They were six months old, weighed six pounds, and sold for 20 cents the pound live weight

Getting the Gapers

By B. F. W. Thorpe

ROTATING the runs of the young chicks to fresh quarters is the surest way to avoid the gapeworm trouble.

If the same ground for the little chick runs is not used oftener than every third or fourth year, the gapeworms will be so few as to give no trouble. They may be eutirely absent.

Heus and other mature poultry act as carriers for the gapeworms. The runs for little chicks should not be placed where other poultry have been running.

I have found the surest way to avoid gapeworms is to confine the little chicks for four to six weeks in well-ventilated pens and yards floored with boards or concrete and thus prevent them from getting to the soil infected with these gapeworms.

The floors of the peus and yards should be covered with sawdust, chaff, or similar litter in which the scratch feed can be easily buried.

German poultrymen are now reported as having good success in overcoming the gapeworm trouble by inserting directly into the chick's windpipe 3 to 5 drops of a 5-per-cent solution of salicylate of soda, obtainable at auy drugstore.

This remedy is introduced through a very small soft rubber tube or a long-stemmed medicine dropper.

In this country experiments have shown some good results from putting into each quart of drinking water about half an ounce of salicylate of soda.

Winter Eggs Are Gold

By Mrs. Clara Griffith

THE high prices for eggs—40 to 60 cents a dozen—uear the holidays have looked so attractive that we decided to try for some of that holiday money.

Our 65 pullets—Buff Orpiugtons aud R. I. Reds crossed—were uot hatched uutil June, 1914, but we pushed them so well they began laying in November.

No account of the eggs laid and sold was kept until January, but at this writing, February 26th, our income for the two coldest winter months from eggs has been:

January, 684 eggs at 50c a dozen....	$28.50
February, 576 eggs at 45c a dozen...	21.60
Total	$50.10

Our plan of feeding was not at all fussy or unusual.

Morning feed, boiled oats; noon, shelled corn in litter; night, ear corn chopped in small pieces.

Variety was furnished with occasional feeds of wheat and rye.

Fresh water and buttermilk were constantly before the hens, also grit, shells, chaff, and clover leaves.

This quite ordinary care any farmer can furnish, together with a comfortable place in which the hens can scratch and roost.

Thus handled we secured an acceptable income from our hens when those of our neighbors were loafiug.

STRONG and vigorous flocks of hens eat more than weak flocks, but their eggs cost less. They are better layers.

Unwise Poultry Counsel

"RAISE White Leghorns for eggs aud you can't go wroug," is the substance of common poultry advice given the beginner. Such speech is responsible for many a poultry failure.

The White Leghorn breed is a good one. Let's not forget that. The average White Leghorn hen does well, but just because a hen is a White Leghorn is uot a sign that she will be a good layer.

Take the records for any mouth in any egg-laying contest and you will find poor Leghorns even among the specially selected competing pens. Last August, for example, the best pen of the hens in the White Leghorn coutest at Mountain Grove, Missouri, averaged 21.4 eggs per hen, while the poorest pen laid 9.6 eggs per hen, less than half as many.

Some of the Leghorn pens were entirely outclassed by average pens of Buff Wyandottes, Black Orpiugtons, Black Langshans, Anconas, Minorcas, and other breeds that are not often considered in the same class with the White Leghorns as layers.

This is a fair example of the many cases where certain strains of the different breeds have qualities superior or inferior to the average for the breed.

A strain is simply a line of descent that has specially developed characteristics such as the ability to lay eggs abuudantly. Good care and feeding are taken for granted.

A SHARPLES MILKER

An investment in permanent satisfaction

SEND FOR LITERATURE

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SAVE HALF Your Paint Bills

By using INGERSOLL PAINT—proved best by 66 years' use. It will please you. Only paint endorsed by the "Grange." Made in all colors—for all purposes.

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Tells all about Paint and Painting for Durability. How to avoid trouble and expense caused by paints fading, chalking and peeling. Valuable information free to you, with sample Color Cards. Write me. DO IT NOW. I can save you money.

O. W. Ingersoll, 274 Plymouth St., Brooklyn, N. Y.

LIGHTNING RODS 6½c per ft. Best quality soft copper cable made. Buy direct. Freight prepaid, C. O. D. and 30 days trial. Satisfaction guaranteed. Complete installing directions. Valuable catalogue free. ROBINSON & SEIDEL CO., Box 5, Washingtonville, Pa.

MONUMENTS

Love's Lasting Tribute

White Bronze is more enduring than granite and is less expensive. Does not chip, crumble or become moss-grown. Has stood every test for over forty years. Work delivered anywhere. Write for handsome Booklet---free.

Reliable Representatives wanted

THE MONUMENTAL BRONZE CO.

347 E. Howard Ave. Bridgeport, Conn.

MAGAZINES WITH Farm and Fireside

By special arrangement with several of the most prominent magazines in America, you can get any one of these periodicals for a year with Farm and Fireside as explained below.

Farm and Fireside, 1 year, regular price 50c
McCall's Magazine, 1 year, regular price 50c
Both for 70c

McCall's Magazine needs no endorsement. It is easily worth $1.00 a year. A single copy will often contain more than one hundred pages, and it is handsomely illustrated. It is a dependable fashion guide, and each issue contains from 50 to 60 of the latest designs, some of which are illustrated in colors, of the celebrated McCall patterns. The leading fashion experts of the world contribute to this magazine.

Farm and Fireside, one year, regular price 50c
Woman's World, one year, regular price 35c
Both for 50c

The Woman's World is one of the best magazines printed for the money; in fact, is superior to many magazines selling for more than this. It is not only attractive in appearance, but its columns are full of the choicest literature that money can buy. It is a big value at a low price. Every farmer in the country should take this opportunity of obtaining the Woman's World without cost in connection with FARM AND FIRESIDE.

Farm and Fireside
The Housewife
For One Whole Year
Both for 60c

The Housewife is a bright, entertaining monthly magazine containing many wholesome serials and short stories and articles of unquestioned merit. It is a magazine that a woman looks forward to receiving each month. It is well illustrated with the work of the best-known artists. The Housewife is edited by Lilian Dynevor Rice.

ORDER TO-DAY You should send in your order to-day because our special prices with the above publishers expire soon.

Farm and Fireside, Springfield, O.

The Handy Man

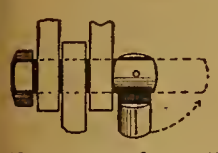
Kills Rats But Not Hens

MIX together a cupful of corn meal, a cupful of flour, one teaspoonful of salt, one-fourth cupful of powdered glass. Then add enough water to make a stiff dough.

Poultry may eat freely of this and not be injured, but rats live only a short time after eating it. To crush the glass, fold it up in a strong cloth, put it on a stone, and pound it with a hammer.

MRS. CHARLES CROSS.

Bolt Needs No Nut



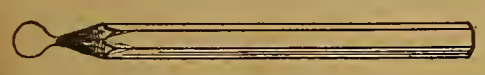
THE sketch shows a bolt I made and use every day with great success. It saves time and, in the winter, cold fingers when changing the pump from the handle to the pump jacket. Just slip the bolt in, turn down the hinged end, and you have a joint that won't come loose, yet can be changed in a moment. You have no loose pins, nuts, or keys to lose or stick.

With a file and hack-saw shape the end of a suitable bolt as illustrated. When the two parts fit together perfectly, drill a small hole and rivet the parts together loosely enough so the end will turn down easily. To remove the bolt, raise the end and pull out.

WM. W. GOFF.

That Speck in Your Eye

TO REMOVE foreign particles from the eye, take a pointed lead pencil, soak it in hot water for about five minutes, when it will separate into halves,



remove the lead and allow the wood to dry, then fill the space formerly occupied by the lead with liquid shellac, place the two halves in their original position, and tie tightly with string or thread.

Now cut a piece of horse hair about two and one-half inches long, bring the ends of the hair together and insert them in the soft shellac in the pointed end of the pencil until there is a loop extending one-half inch from the pencil point, set it aside until the shellac is hard, when the string should be removed and the excess shellac cleaned off, when it will appear as in the sketch.

Take the pencil in the right hand and drag the offending object off the eye with the hair loop. The hair will not scratch the eyeball, and will not allow too much pressure, as it will bend.

To look under the upper lid, tell the patient to look at his cheek. Now place a toothpick or match on the upper lid, parallel with the lashes and about one-fourth inch above them, seize the lashes with the thumb and index finger of the other hand and fold the lid back over the toothpick and remove the cause of trouble with the hair loop. Now bring the lid to its normal position by releasing the eyelash or, if necessary, gently pull the lashes down.

WM. NICHOLAS.

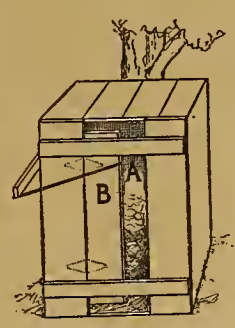
For the Pawing Horse

A HORSE that has the habit of pawing, especially at night, is most annoying. It is also bad for the horse's feet if he is pawing all the time.

To stop this, take a strong strap with a buckle on it, also 8 or 10 inches of heavy chain. Put the strap around the horse's leg above the knee so the chain will hang down in front of the knee. This device acts as a chain switch and will cure the horse of the pawing habit. It also keeps a horse from running in rough pastures.

G. SIEBERT.

A Wild-Heifer Trap



I HAD a heifer last winter that ran wild and stayed away from the barn. This is how I caught her. I made the trap shown in the sketch and fastened it to a tree near the place I had last seen her. Then I put hay in for bait. In three days she was in the trap.

When the animal pushes its head into the opening (A), the hinged board (B) swings in, and as soon as the head is in far enough the spring pulls it back in place and the animal is secured just as in a stanchion.

I know of several cases where animals went wild and stayed out till they died of cold and hunger. A trap of this kind would have saved them.

W. M. GAYLORD.

A Hoe Marker

HERE is an idea which has been useful to me and may be to others. It is a marker adapted for planting double rows of garden seeds with six inches of space between the rows.

Take an ordinary garden hoe and procure two pieces of board, each 1 inch thick, 8 inches wide, and long enough to extend 2 inches each side of the hoe blade. Nail two tapering cleats on front side of one board so that points are 6 inches apart, then place the hoe blade between two boards and put one nail in near each corner. The hoe blade can easily be slipped in or out as it is needed for different uses.

J. PAUL HATCH.

Ten-Second Topics

THE Polled Hereford is now an established breed of cattle having all the characteristics of Hereford cattle except horns.

CHINA is gradually getting rural telephones.

DENMARK has prohibited the exportation of clover seed.

OHIO grows only one fourth as many apples as she did thirty years ago.

LESS than a third of the population of the United States actually live on farms.

THE average birth weight of a Holstein calf is 89 pounds, and of a Jersey, 53 pounds.

NEARLY all the dairy cows that have made world's records for production have been above the average in size.

THERE are no silos in the Republic of Venezuela, notwithstanding that in the dry season live stock sometimes starves to death.

COTTONSEED MEAL shipped into Massachusetts has been getting poorer in quality for the last seventeen years, according to state officials who have kept tab on it.

FOR the first time, a Southern county once freed from the cattle tick has been quarantined again. It is Smith County, Mississippi. A black eye for the Smith County farmers.

F W

AN OHIO man has wintered his horses on a ration of wheat straw fed with two quarts of molasses to each horse a day. He states that they are in better condition than his horses have usually been.

PLANNING the barn so that the silage, the feed, the manure, and the water will all be given to the stock with the least possible expenditure of time and muscle, not only lengthens the farmer's life but saves shortening his temper.

A CHICK-HATCHING FARM which is putting into its incubators this year some 185,000 eggs at each setting dips every egg in a coal-tar preparation. This dipping destroys all germs on the shells or in the pores, and so reduces the chance of the chicks being infected when hatched.

A LONG time ago a farmer picked out several strains of potatoes from a commonly grown variety. One of them proved to be a splendid potato, and he kept improving it. Finally he sold it to a seed company for $125. The farmer was Luther Burbank, and the potato was the Burbank potato.

WHAT becomes of the unused parts of the "individual" bars of soap furnished in hotels, clubs, and other public places to guests? There is always a fresh bar in its paper wrapper for every newcomer. They are collected, melted, and sterilized by the heat, and made over into new bars. Housewives may do the same thing with soap fragments which collect about the house.

The Biggest Time-Saver Since the Mowing Machine

IN THOSE cases where "first aid" and other emergencies demand that farmers get quick action, 25 or more miles an hour can easily be done on a 1915

Indian Motocycle

Riding an Indian is the safe, sure, swift, positive way of getting anywhere, any time—when speed and certainty are vital.

The Indian costs so little and does so much that a progressive farmer really can't afford to get along without it. It has the strength to haul loads of goods to and from town at high speed. It has the *Cradle Spring Frame*, the *exclusive* Indian device that marks the highest attainment in two-wheeled motor vehicle comfort.

Get an Indian. Don't take chances with an unknown machine. Buy the Indian as you would any other farm machinery of the highest known standard—because it has a big name behind it.

2,800 Indian dealers—everywhere—assure over-night service—anywhere

Send for 1915 Indian Catalog

HENDEE MANUFACTURING CO., 741 State Street, Springfield, Mass.

(Largest Motorcycle Manufacturers in the World)

Eddie Collins Drinks

Coca-Cola

TRADE MARK REGISTERED

—considers it the premier, all-'round wholesome thirst-quencher for athletes. This comes well from one of whom Comiskey said, after paying $50,000 for him—"I secured him for the White Sox fans because I believe he will prove that he is the greatest exponent of quick thinking and the brainiest player in the game."

Demand the genuine and avoid disappointment

THE COCA-COLA CO.
ATLANTA, GA.

5-F

One Idea

There's just one thought we want to give you in this advertisement.

Picture a big, clean factory with bright, happy workers, scientific methods, the most advanced mechanical equipment.

All fit together into one great idea—the production of the best possible medium-priced clothes for men. That has been the Clothcraft Idea since 1846.

Of course they never reach the "best possible"—no one can—but drop in at the store and see how nearly they have reached it in this season's models at $10 to $20. Ask us about No. 5130, the famous Clothcraft Blue Serge Special at $15.00.

CLOTHCRAFT
All Wool Clothes
$10 to $20 Ready to Wear

The Clothcraft Store
(IN YOUR TOWN)

Write to The Joseph & Feiss Co., 548 St. Clair Ave., Cleveland, Ohio, for the Clothcraft Style Prints, a sample of the all-wool serge used in Clothcraft 5130, and a personal note of introduction to the nearest Clothcraft Store.

FREE "Linene" COLLAR
State size on postal and whether you want collar like cut or low turnover style.
Reversible Collar Co., Dept. Y, Boston, Mass.

4 BUGGY WHEELS FREIGHT PAID STEEL TIRES **$8.75**
With Rubber Tires, $18.45. Your Wheels Rerubbered, $10.30. I make wheels ⅜ to 4 in. tread. Tops, $6.50. Shafts, $2.10; Repair Wheels, $5.95; Axles, $2.25; Wagon Umbrella free. Buy direct. Ask for Catalog 7.
SPLIT HICKORY WHEEL CO., 507 F St., Cincinnati, Ohio

Fish Bite like hungry wolves any season, if you bait with **Magic-Fish-Lure.** Best fish bait ever discovered. Keeps you busy pulling them out. Write to-day and get a box to help introduce it. Agents wanted.
J. F. Gregory, Dept. 42, St. Louis, Mo

MEN WANTED
We positively teach you at home by mail to earn $25 to $50 weekly as Chauffeur or Repairman. Students assisted to positions. Best system, lowest price. MODELS FURNISHED. Write for Free Book.
Practical Auto School, 70-A, Beaver Street, New York

THIS 1915 Model Ranger 30 DAYS Free Trial

EXTRAORDINARY OFFER—30 days one month's free trial on this finest of bicycles—the "Ranger." We will ship it to you on approval, *freight prepaid*, without a cent deposit in advance. This offer is *absolutely genuine*.
WRITE TODAY for our big catalog showing our full line of bicycles for men and women, boys and girls at *prices never before equaled* for like quality. It is a cyclopedia of bicycles, sundries and useful bicycle information. **It's free.**
TIRES, COASTER-BRAKE rear wheels, inner tubes, lamps, cyclometers, equipment and parts for all bicycles at **half usual prices.** A limited number of second hand bicycles taken in trade will be closed out at once, at **$3 to $8** each.
RIDER AGENTS wanted in each town to ride and exhibit a sample 1915 model ***Ranger*** furnished by us.
It Costs You Nothing to learn what we offer you and how we can do it. You will be astonished and convinced. **Do not buy** a bicycle, tires or sundries until you get our catalog and new special offers. **Write today.**
MEAD CYCLE CO., Dept. A-83, CHICAGO, ILL.

Our Boys at Play

What a Big National Association of Amateurs is Doing

By HUGH S. FULLERTON

WHEN I was a boy we organized a baseball team "down on the crick," hoping to go into town and show up those "dudes." Stratton was our best player, and we named a delegation to see his father and get permission for him to play with us.

Mr. Stratton listened thoughtfully, and finally remarked:

"Well, if Jim'll be a good boy and work hard, he can play that fool game with yon Thanksgiving, Christmas, and New Year's afternoons."

"That fool game" has made considerable progress since that time, and it is jnst as popular in the conntry as it is in the city, even if hay harvest and wheat-cntting, threshing time and fall plowing, do happen at exactly the wrong time for baseball.

Since we commenced the organization and perfection of the National Amateur Baseball Association which now is gathering into its circnit the amatenr organizations of the entire conntry, we have discovered, somewhat to onr snrprise, that in proportion to population the country and the country villages have baseball teams and players in even greater numbers than the large cities have. In spite of the inevitahle conflict of farm work and baseball in summer, I have statistics showing that a larger percentage of country boys play the game than of city boys and, to my astonishment, I have learned that, as a rule, they are better posted on major-league baseball than the average city boy is. In the cities the nnmber of boys who know nothing of the game, care nothing for it, and never attend games is surprisingly large.

The problem we are striving to work out is how to include the small-town and the country team in the National Amatenr Association. We can handle the cities and their suburbs by making each city and its snrrounding towns a local unit, and permitting them to play for their local championship, after which they play the nearest city, and so on, until a district champion is chosen to meet the championship team of the next district.

I expect to see the day when the National Association will organize state units, every amateur association in that State competing for the state championship, and so on, until a national champion is proclaimed.

When that stage of development is reached the country teams will have the same chance as those of the cities to win their way np through the lists.

Baseball for the Country

From the beginning the movement of professional baseball has been toward the large centers of population, drawing the players from the country and the small town. The amateur movement now progressing contemplates a reversal of this order.

The West has taken up the idea of rural sports more qnickly than the longer settled districts have done. In California there are three rural amatenr leagues playing baseball, the teams representing the ranches or ranch settlements. In both Oregon and Washington the same movement is observed. The large number of college men on the Western ranches, engaged in reclamation work or in development of new territories, accounts for this development of sport.

There is a district in central Illinois in which rural sports are being held; and the annual tournament, nsnally held at Sheffield, is one of the featnres of community life in that district.

In Cook Conuty the movement has taken the form of games nnder the control of the schools. Each country school has its athletic organization and its baseball and football and basket-ball teams. Bnt the great event of the year is the field day at which hundreds of boys and girls representing the district schools compete. At the Des Plaines camp gronnd more than 800 boy and girl athletes were engaged in the competitions.

The National Amatenr Baseball Association's chief object is the promotion of amateur sport, and the betterment of the spirit of sportsmanship in this country. We want to teach the boys to be fair, sportsmanlike, and to value sportsmanship above a mere victory. After that we want to teach the boys the value of athletics as physical, mental, and moral trainers.

When you read what I say, I don't want you fellows to fly off the handle and get mad; but the average conntry team, and the average conntry player, is a "bum sport"—what the college boys call a "mucker." I can say it because I have played with teams that resorted to anything to win, that fonght if they were beaten, and wrangled at all times. We never were taught anything else. Our object was to beat Lynchbnrg, or Bainbridge, or Greenfield, and we cared less for the game and the sportsmanship than we did for a victory. It was customary to lick the umpire if we could, and to threaten to lick him if we conld not.

Walter Johnson, the "Kansas Cyclone," who is a farmer near Coffeyville. Inspired by such great players the clean spirit of the professionals is running through the ranks of the amateurs

The farm boy is not to be blamed for this. He is no worse than the city boy—in fact, he is natnrally better. Bnt the city boy has more opportunity to know and to understand the trne spirit of sportsmanship, and to apply it in his sports and pastimes. He has the object lesson of the college boy, who learns, first of all, that "muckerishness" is bad form, and who pretends he is not a mucker no matter how big a one he is at heart. The city boy learns it from the playground director, the athletic club, and even from the professional who, in these latter years, has been forced by discipline to pretend to be a "good sport" whether or not he is.

That country districts can be organized perfectly, and that they can develop into active athletic centers, is proved in several parts of the country. The best example, perhaps, is Dntchess County, New York, which has become one of the greatest athletic centers in the world. Amenia, a little town over near the Connecticut line, saw the need of organizing the boys and girls, and the effort took the form of an athletic meet—merely a big "township picnic" with a definite object. The first meet was like a picnic with games, races, and a ball game. Last year all Dntchess County was there—about 40,000 athletic boys and girls representing villages, crossroads, towns, and cities, competed in one of the greatest athletic meets in America.

Just Call a Meeting

You boys in the villages, on the farms, can do the same thing in baseball. The idea of conuty organization probably would be the best. It seems to me the first thing to do would be to call a meeting of all the boys in the neighborhood in some barn some afternoon. Organize a neighborhood team. You'll find that every one of the boys can throw, and run, and catch a ball fairly well; that they can bat; but perhaps none has played on any regularly organized team, or given mnch thought to the "inside" game. Get the team together, practice when the work is slack, and notify neighboring communities of yonr organization.

Have "skull" practice as often as possible, even when only two or three of the fellows can get together. By "skull" practice I mean a social discnssion of the game. Read the rnles carefully. You will learn mnch from them. Every rule was made to meet some emergency, and most of them to prevent sharp practices and trickery. Stndy to find why they were made.

The best idea of all is to get any newspaper that prints a "rnnning account" of a game, telling what each man did in each play. Argne as to why he did that; and if he erred, figure ont what he was trying to do. That is the thing the "big leagne" leaders do every day—and yon can learn baseball that way more easily than any other. This is "sknll" practice.

When yon reach the stage of organizing a conuty association, get the leaders of all teams together, and elect as officers men who will enforce every rule. Agree first of all to obey unquestioningly, to snbject yourself to discipline for infraction of any rules, and to respect nmpires and opponents.

In the majority of the city associations in the National Amateur Association the beautiful rule has been adopted of choosing the leading championship teams, not on the number of games won and lost, but by taking into consideration the efficiency and the sportsmanship of the teams and the players. On the Chicago playgrounds, winning and losing is fignred at 40 per cent, sportsmanship at 35 per cent, and promptness and bnsiness ability at 15 per cent. The team that wins 8 and loses 10 games might, by perfect condnct, strict attention to bnsiness, and sportsmanlike demeanor, win the pennant. Cleveland, St. Louis, Lonisville, Colnmbns, and other cities have similar rules.

Cleveland, with abont 500 teams in its association, chooses those that are to compete for the championship on: (1) sportsmanship; (2) promptness and obedience; (3) strength of teams that have been played, and (4) percentage of games won and lost.

You wonld think that some teams would complain and feel ill treated. In tonr years the committee in charge has picked 8 teams to play for the championship in the first division, 16 in Class B, 16 in Class C, and 16 in Class D. After selecting the teams it annonnces that any club that has a claim for higher rating may appear and state its case. In four years only about a dozen have complained, and only two changes have been made from the first selections.

Boys and Girls Alike

Years ago, when Patsy Tebean and his crowd had the worst "rowdy" clnb in the history of baseball, I knew Cleveland well. The spirit of the professional ran through the amateurs. I remember seeing two games in Glendale (part of the city) break up in fights in one afternoon. Last snmmer I watched a game at Cleveland. One player lost his temper and spoke angrily to the nmpire, who banished him from the field—and the partisans of that boy's team applanded the umpire.

It is that spirit we want in amateur baseball in the country as well as in the city. Yon fellows who want to play the game have no idea how mnch more satisfaction there is in friendly contests, in hard playing, clean playing, and "good sport" playing than there is in wrangling, fighting, losing tempers, and spoiling the sport for the mere sake of victory.

Get together and organize right.

In every case I have investigated, it seemed that one or two fellows who knew something of athletics, of baseball or football or basketball, mentioned the fact and discovered that every youth who heard of it wanted to join in the movement.

Nor are the girls a whit less eager than the boys. At one rnral field meet in Illinois at which I presided as referee, more than 50 per cent of the contestants were girls, and in the sprints they more than held their own with the boys.

Perhaps the best method of organizing in rural districts is by the nse of the general interest of the boys and girls in baseball. The organization of a baseball team in a rural community brings together the leaders, and makes it easy to extend the activities of the baseball organization to other athletic sports.

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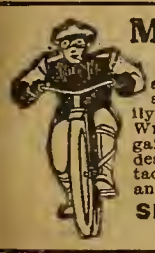

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No. 2714
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The government's kitchen. All the experiments are conducted with a view to farm conditions

Miss Wessling has invented a sponge closet which you may imitate without much difficulty

Good Bread

And How Uncle Sam Makes It in His Kitchen

By WALDON FAWCETT

MISS HANNAH WESSLING has probably baked more bread within the past few years than does the average mother of a large family in a long lifetime on the farm. Miss Wessling has both men and women assistants to help her, but she makes most of the bread herself, working the dough with her own hands.

This all takes place in the experimental bakery, which is a part of the United States Department of Agriculture. Here hundreds and thousands of tiny test loaves of bread have been baked, to say nothing of pies and cakes and biscuits without number. The baking has been done under all sorts of conditions and with all grades of flour and all manner of yeasts, baking powders, flavoring extracts, and other ingredients. The federal explorers in the field of baking have even gone so far as to make trials of a number of substitutes for wheat flour—potato flour, banana flour, chestnut flour, and other varieties which it has been suggested might possibly be produced more cheaply than wheat flour in certain localities.

They Do Things by Rule

The men and women who have studied bread-making for the Government would like to see all bread made by rule of thumb. Perhaps some women will regard them as a trifle fussy when they object to the way the usual housewife trusts to her judgment in taking a pinch of this and a dash of that instead of weighing and measuring everything from flour to flavoring that enters into the making of bread or pastry, but their ideas are worth listening to all the same.

Another suggestion they make is that most cooks would have better success if they gave greater attention to the matter of temperature. Fermentation, say these wiseacres, is the foundation of successful baking. Miss Wessling has invented a closet where the heat can be controlled accurately and absolutely. This sponge closet is heated by electricity and fitted with glass doors through which the progress of the operation may be watched. But Miss Wessling declares that any housewife may obtain the same beneficial results by boring holes in the top of an ordinary wooden box, fitting a shelf for crocks, and installing underneath a small oil lamp to provide heat.

Miss Wessling and her assistants prepare their own flour, except of course when tests are being made of commercial flours such as are sold in the open market. When wheat is sent to the Department, as is constantly the case, in order that its flour-making qualifications may be determined the sample is made into flour under Miss Wessling's direction in a room fitted with several types of the small hand-power mills such as may be found in many farm houses.

This experimental bakery is also a model kitchen, and will interest any housewife from this standpoint. To be sure, all the baking is done in gas or electric ovens, but this is merely because the experimenters must know the exact temperature at all times and be able to regulate it to the fraction of a degree. Otherwise there is nothing in this bread-making that may not be duplicated in the every-day kitchen.

This is Miss Wessling, who weighs everything she puts into her bread

The experience at the Department of Agriculture is that a heat of about 400 degrees is the best temperature for baking, and there is no reason why this cannot be attained with a wood-burning or coal-burning range just as readily, though perhaps not as quickly, as with an electric or gas oven.

Drying Dishes Without Dish Towels

Several original ideas have been worked out in the equipment of this unique bakery kitchen, and one of them would be useful to any housewife as a means of saving space, time, and steps. This is a drain board or dish rack, and is placed flat against the wall directly above the kitchen sink. This flat board, several times as large as the ordinary bread board, is full of holes in which may be stuck at will pegs or sticks which, when in place, project from the face of the board at an angle. The purpose of these pegs is to furnish support for all manner of dishes and cooking utensils. The cups, the tumblers, the pitchers, and other deep vessels may be placed, bottom up, each on its individual peg, whereas plates, saucers, and flat dishes are supported in perfect security on rows of more slender sticks—each about as large around as a lead pencil—set close together so as to form what is equivalent to a continuous rack.

The advantage of this device is that it does away with the drying of dishes in the ordinary time-consuming way, and also saves the wear and tear upon dish towels and the time spent in laundering them. The dishes and utensils after being washed are rinsed in boiling water, and suspended on the upright board down which the surplus water quickly drains. Evaporation performs its work in short order, and they are ready and waiting in the most convenient place when the time comes for another baking or the preparation of the next meal.

Recipes From Seven Housewives

Chicken Puff—One pint of cold chicken chopped, one tablespoonful of butter, one pint of milk, one-half teaspoonful of salt, two dashes of pepper, one tablespoonful of flour, three eggs, one-half cupful of stale bread crumbs. Melt the butter in a saucepan, then add flour and mix till smooth, add milk and stir till it boils, add the crumbs, and cook one minute. Remove, add seasoning, chicken, and the well-beaten yolks, then the stiffly beaten whites. Bake quickly for twenty minutes.

Baked Onions—Onions are capable of much variety in preparation, and are usually well liked. Rather an unusual dish is baked onions. They are washed, but not peeled. Set them in an earthen baking-dish, and bake very slowly. When done peel them, put them in a hot dish, pour a good cream sauce over them, and serve.

Deviled Eggs are made by a variety of recipes, and nearly all are good. One of the easiest and best is to put the eggs into cold water, bring slowly to the boiling point, and let boil very gently for forty-five minutes. After they are quite cool, remove the shells, cut the eggs in half, and with a fork crush the yellows very smooth, mix with enough boiled salad dressing to hold together, replace in the white, and keep cool till wanted. A few nuts may be ground and added to the yolks, giving an unusual and very good flavor. A little grated cheese gives another variation.

Jack Horner Cake—Sift three quarters of a pound of flour into a large bowl; into this work well with the fingers six ounces of butter, then add half a pound of raisins, half a pound of currants, a quarter of a pound of citron peel chopped fine, ten ounces of sugar, half a grated nutmeg and a pinch or two of salt. Mix these ingredients well together with a wooden spoon. Beat three eggs to a froth, stir into the mixture, adding half a cupful of milk, or more if necessary, for it should be of such a consistency that the spoon will stand up in it, and last of all stir in a quarter of a teaspoonful of soda. When well mixed—it is important that a cake of this kind be well mixed—pour into a tin, or tins, for it will make two cakes, lined with buttered paper. Bake in a moderate oven for an hour and a half if made into one large cake.

Chili Sauce—Ten large ripe tomatoes; one green pepper, chopped fine; two onions, chopped fine; one cupful of vinegar; one-half cupful of sugar; one tablespoonful of salt, and one teaspoonful each of pepper, mace, cloves, allspice, and nutmeg. Remove the seeds from the pepper, and chop the tomatoes to insure freedom from large pieces that will not pass through the neck of a bottle. Put all together in a granite pan, and cook slowly until of the right consistency; it will take about two hours. Put in bottles while hot, and seal with paraffin.

Tomato Butter—Stew separately five quarts of ripe tomatoes and six quarts of apples. After they are soft, mix well, and add six pounds of sugar, two tablespoonfuls of ginger, two tablespoonfuls of cloves and three tablespoonfuls of cinnamon. Cook until stiff, stirring constantly. The ordinary red tomato or the small yellow variety serves equally well in making this butter.

Apple Butter—Ten quarts of stewed apple sauce, one cupful of good vinegar, and eight cupfuls of sugar. Season with cinnamon, cloves, and allspice, tied in a bag. This is fine.

EW

The Brown Mouse

The Romance of a Farm Hand Who Upset a School District

By HERBERT QUICK

Part Fourteen

JIM IRWIN, once hired man on Colonel Woodruff's farm, became district-school teacher. His activities in making the course of study a training for boys and girls who would become farmers and farmers' wives excited the disapproval of the community. Beyond the community, however, his methods excited favorable attention. He was invited to lecture at Iowa State College, where his straightforward talk won the respect of educators and resulted in the offer of a better teaching position. Then his own district rallied around him, offered him a consolidated school, the facilities for carrying out his ideas, and an increased salary. His old sweetheart, Jennie Woodruff, who as county superintendent had opposed his methods, saw a new light.

XXXV

The South Peeps In

SUPERINTENDENT JENNIE sat at her desk in no very satisfactory frame of mind. In the first place, court was to convene on the following Monday, and both grand jury and petit juries would be in session, so that her one-room office was not to be hers for a few days. Her desk was even now ready to be moved into the hall by the janitor. To Wilbur Smythe, who did her the honor of calling occasionally as the exigencies of his law practice took him past the office of the pretty country girl on whose shapely shoulders rested the burden of the welfare of the schools, she remarked that if they didn't soon build the new courthouse so as to give her such accommodations as her office really needed, "they might take their old office—so there!"

"Fair woman," said Wilbur, as he creased his Prince Albert in a parting bow, "should adorn the home!"

"Bosh!" sneered Jennie, rather pleased, all the same. "Suppose she isn't fair and hasn't any home!"

This question of adorning a home was no nearer settlement with Jennie than it had ever been, though increasingly a matter of speculation.

There were two or three men—rather good catches, too—who, if they were encouraged—but what was there *to* any of them? Take Wilbur Smythe, now: he would by sheer force of persistent assurance and fair abilities eventually get a good practice for a country lawyer,—three or four thousand a year,—serve in the legislature or the state senate, and finally become a bank director with a goodly standing as a safe business man; but what was there *to* him?

This is what Jennie asked her paper weight as she placed it on a pile of unfinished examination papers. And the paper weight echoed, "Not a thing out of the ordinary!" And then, said Jennie, "Well, you little simpleton, what are *you* out of the ordinary that you should sneer at Wilbur Smythe and Beckman Fifield and such men? And echo answered, "What?"—and then the mail carrier came in and added something.

Down near the bottom of the pile she found this letter, signed by a Southern state superintendent of schools, but dated at Kirksville, Missouri. "I am a member of a party of Southern educators—state superintendents in the main," the letter ran, "*en tour* of the country to see what we can find of an instructive nature in rural-school work. I assure you that we are being richly repaid for the time and expense, There are things going on in the schools here in northeastern Missouri, for instance, which merit much study. We have met Professor Withers of Ames, who suggests that we visit your schools, and especially the rural school taught by a young man named Irwin, and I wonder if you will be free on next Monday morning, if we come to your office, to direct us to the place? If you could accompany us on the trip, and perhaps show us some of your other excellent schools, we should be honored and pleased. The South is re-creating her rural schools, and we are coming to believe that we shall be better workmen if we create a new kind, rather than an improvement of the old kind."

There was more of this courteous and deferential letter, all giving Jennie a sense of being saluted by a fine gentleman in satin and ruffles and with a plume on his hat. And then came the shock—a party of state officials were coming into the county to study Jim Irwin's school! They would never come to study Wilbur Smythe's law practice—never in the world; nor her work as county superintendent—never! And Jim was getting seventy-five dollars a month and had a mother to support! Moreover, he was getting more than he had asked when the Colonel had told him to "hold the district up!" But there could be no doubt that there was something *to* Jim—the man was out of the ordinary. And wasn't that just what she had been looking for in her mind? Jennie was greatly excited.

Jennie wired to her Southerner for the number of his party, and secured automobiles for the trip. She sent a note to Jim Irwin telling of the prospective visitation. She would show all concerned that she could do some things, anyhow, and she would send these people on with a good impression of her county.

She was glad of the automobiles the next Monday morning when at 9:30 the train discharged upon her a dozen very alert, very up-to-date, very inquisitive Southerners, male and female, most of whom seemed to have left their "r's" in the Gulf region. It was eleven o'clock when the party parked their machines before the schoolhouse door.

"There are visitors here before us," said Jennie.

"Seems rather an educational shrine," said Doctor Brathwayt of Mississippi. "How does he accommodate many visitors in that small edifice, I wonder?"

"I am not aware," said Jennie, "that he has been in the habit of receiving so very many from outside the district. Well, shall we go in?"

A dozen very inquisitive Southerners came to inspect Jim's school

Once inside, Jennie felt a queer return of her old aversion to Jim's methods—the aversion which had caused her to criticize him so sharply on the occasion of her first visit. The reason for the return of the feeling lay in the fact that the work going on was of the same sort, but of a more intense character. It was so utterly unlike a school as Jennie understood the word that she glanced back at the group of educators with a little blush. The school was in a sort of uproar. Not that uproar of boredom and mischief of which most of us have familiar memories, but a sort of eager uproar in which every child was intensely interested in the same thing and did little rustling things because of this interest—something like the hum at a football game or a dog fight.

On one side of the desk stood Jim Irwin, and facing him was a smooth stranger of the old-fashioned lightning-rod-agent type—the shallower and laxer sort of salesman of the kind whose sole business it is to get signatures on the dotted line and let someone else do the rest. In short, he was a "closer."

Standing back of him in evident distress was Mr. Cornelius Bonner, and grouped about were Columbus Brown, B. B. Hamm, Ezra Bronson, A. B. Talcott, and two or three others from outside the Woodruff District. With envelopes in their hands and the light of battle in their eyes stood Newton Bronson, Raymond Simms, Bettina Hansen, Mary Smith, and Angie Talcott—the boys filled with delight, the girls rather frightened at being engaged in something like a debate with the salesman.

As the latest-coming visitors moved forward they heard the schoolmaster finishing his passage at arms with the salesman.

"You should not feel exasperated at us, Mr. Carmichael," said he in tones of the most complete respect, "for what our figures show. You are unfortunate in the business proposition you offer this community. That is all. Even these children have the facts to prove that the creamery outfit you offer is not worth within two thousand dollars of what you ask for it, and that it is very doubtful if it is the sort of outfit we should need."

"I'll bet you a thousand dollars—" began Carmichael, hotly, when Jim waved him down.

"Not with me," said Jim. "Your friend, Mr. Bonner, there, knows what chance there is for you to bet even a thousand cents with me. Besides, we know our facts in this school. We've been working on them for a long time."

"Bet your life we have!" interpolated Newton Bronson.

"Before we finish," said Jim, "I want to thank you gentlemen for bringing in Mr. Carmichael. We have been reading up on the literature of the creamery promoter, and it is a very fine thing to have one in the flesh with whom to—to—demonstrate, if Mr. Carmichael will allow me to say so."

Carmichael looked at Bonner, made an expressive motion with his head toward the door, and turned as if to leave.

"Well," said he, "I can do plenty of business with *men*. If you *men* want to make the deal I offer you, and I can show you from the statistics I've got at the hotel that it's a special deal just to get started in this part of the State, and carries a thousand dollars of cut in price to you, why let's leave these children and this he schoolma'am and get something done."

"I can't allow you to depart," said Jim, more gently than before, "without thanking you for the very excellent talk you gave us on the advantage of the co-operative creamery over the centralizer. We in this school believe in the co-operative creamery, and if we can get rid of you, Mr. Carmichael, without buying your equipment, I think your work here may be productive of much good."

"He's off three or four points on the average overrun in the Wisconsin 'co-ops'," said Newton.

"And we thought," said Mary Smith, "that we'd need more cows than he said to keep up a creamery of our own."

"Oh," replied Jim, "but we mustn't expect Mr. Carmichael to know the subject as well as we do, children. He makes a practice of talking mostly to people who know nothing about it—and he talks very well. All in favor of thanking Mr. Carmichael please say 'Aye'."

There was a rousing chorus of "Aye!" in which Mr. Carmichael, followed closely by Mr. Bonner, made his exit. B. B. Hamm went forward and shook Jim's hand slowly and contemplatively, as if trying to remember just what he should say.

"James E. Irwin," said he, "you've saved us from being skinned by the smoothest grafter that I ever seen."

"Not I," said Jim; "the kind of school I stand for, Mr. Hamm, will save you more than that, and give you the broadest culture any school ever gave—a culture based on life. We've been studying life in this school—the life we all live here in this district."

"He had a smooth partner too," said Columbus Brown. Jim looked at Bonner's little boy in one of the front seats and shook his head at Columbus warningly.

"If I hadn't herded 'em in here to ask you a few questions about co-operative creameries," said Mr. Talcott, "we'd have been stuck—they pretty near had our names. And then the whole neighborhood would have been sucked in for about fifty dollars a name."

"I'd have gone in for two hundred," said B. B. Hamm.

"May I call a little meeting here for a minute, Jim?" asked Ezra Bronson. "Why, where's he gone?"

"They's some other visitors come in," said a little girl, pulling her apron in embarrassment at the teacher's absence.

Jim had, after what seemed to Jennie an interminable while, seen the county superintendent and her distinguished party, and was now engaged in welcoming them and endeavoring to find them seats—quite an impossible thing at that particular moment, by the way.

"Don't mind us, Mr. Irwin," said Doctor Brathwayt. "This is the best thing we've seen on our journeyings. Please go on with the proceedin's. That gentleman seems to have in mind the perfectin' of some so't of organization. I'm intensely interested."

"I'd like to call a little meetin' here," said Ezra Bronson to the teacher. "May we take a little while longer?"

"Certainly," said Jim. "The school will please come to order."

[CONTINUED IN NEXT ISSUE]

EW

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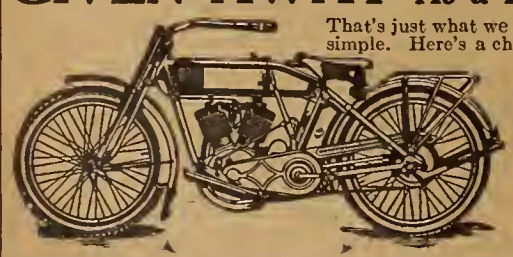

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The Experience Bazaar

Woman's Labor

SOMETIMES by a sigh or a confession the veil of the temple of human reticence is rent and we stand for an instant before the holy of holies—the uncovered heart of a man or a woman.

A letter has come to me which is tragic, indeed, in its revelation of a woman's life.

"Is it right," the letter asks, "for a man to make a slave of his wife; to expect her to attend to her housework, her marketing, and fowls and turkeys, and when the produce is sold never to get a penny for any purpose? This has been going on for years. He doesn't fix up the house comfortably like some men, nor the farm, and the cellar is so wet that the water has to be dipped out of it. When I am sick I have to work. When I need to go to the doctor's, he tells me he has no money, even though he has the week's market money in his pocket. Is it right for a man to carry the change in his pocket all the time? I have had money I inherited from my home, and he has taken it. Would it have been lawful for me to keep it? We are not poor, we own a hundred acres of land."

Think of it! Here are a man and a woman who were once drawn together by affection, now living together like enemies because of the rank cruelty and injustice of the husband. How many possibilities of being happy this man has wasted by allowing himself to be ruled by his selfishness, greed, and vanity!

But although sinners and men of dull and feeble understanding like this husband are pitiable—because they really lose much more even in this world than they gain by their cruelty and lust—we shall not squander our sympathy upon this offender.

What of the woman, however?

She has a legal right in her State to the money that she inherits and the money that she earns. Her husband has stolen what is hers, and if she demands her own earnings she will not be begging for a present but claiming her own property.

Men like this husband hold ideas of a woman which belong to those periods when a wife was owned. But our laws, thank God, are now made by men of a different type, men who see women as equal partners with men in the world's work. The only way for a husband to deprive his wife of justice to-day is to do it illegally by stealing and brutality, by imposing upon her ignorance of her own rights before the law.

I am sorry this wife has no daughter whom she may train out of her own bitter experience to know and exercise a woman's rights and power, and no son to whom she can teach the honor and privileges of an upright manhood. But there are the daughters and sons of other women to whom she can tell the blessed gospel of a just and loving partnership in marriage.

Other Folks' Children

"WHY don't more women take children into their homes a few hours every day and give them good milk to drink? I am a poor woman, but I like to see the way children will drink milk. Why, some of the little ones I bring to my house act as if they had never seen it before, and they just drink glass after glass. They begin to look better right off—almost like wilting flowers after a shower has brightened them up.

"It's very easy to amuse children. Nobody need be afraid of the time it takes. I keep a box handy and put into it my empty spools, boxes, scraps of cloth, bits of colored paper or tinfoil, and colored string. When I have time I cut out pictures of animals or children from the papers and put these in too. That box just keeps children busy for a couple of hours at a time.

"I wish you'd tell the women of FARM AND FIRESIDE what a nice thing it is to take children this way. There are always sick mothers to be found who are glad to have their children cared for, and mothers who maybe never thought of how much the children would like milk or hadn't it to give them.

"I never give children candy. It makes them sick and stupid, but just good milk and cookies. Please tell the readers of FARM AND FIRESIDE to do this, even if they're poor. There's always a way."

There's always a way. How true that is! If we are not afraid of being bothered, of using too much of the milk we might sell, of wasting our time and getting tired, we can do lots of good in the world. The trouble is most of us are afraid of everything—responsibility, poverty, fatigue. It is a joy to publish this letter from a woman who isn't afraid of being kindly and serviceable. She is the best kind of woman in the world—the good mother not alone of her own children but of all children. That is being a real woman and a real mother.

It is a luxury to take care of our own children. We adore them, we are proud of having them, and we expect rewards from them. We give and we expect gratitude; we serve and we expect service in return when we are old; their love blossoms like flowers along the pathway of our lives. The woman, however, who makes her neighbors' children happy has no such rewards. The careless youngsters rush on from their milk and their play box with no thought of gratitude, yet the Mother of All Children is content.

Facing Her Own Sin

I HAVE read a certain letter over and over again.

What do *you* think about it? Is its writer sincere when she asks us to help her? Is it possible that her own heart has failed to give the answer which she asks of us?

These are her questions:

"Is it a shame and disgrace to separate a man and his wife? Is it any harm for me to receive presents from him on the sly when he is a married man? Tell me if I am doing wrong in kissing him? I let him hug and kiss me, trying to keep him away from his wife."

"Is it a shame and disgrace to separate a man and his wife?" This woman is stealing from a wife what belongs to her alone. Is it not always wrong to steal, even though what we steal may seem to us the most beautiful thing in the world?

"Is it wrong for me to receive presents from him on the sly?" What we have to do on the sly we may feel perfectly sure is wrong.

"Tell me if I am doing evil in kissing him?" What will be the outcome of this romance? Happiness? No, our correspondent is not happy even now. If she had been she would not have written to us. If she has a heart it will soon bleed for the wife who is betrayed. Her pride will be dragged in the dust by the scorn of her neighbors. She will hate herself because her soul is dirty.

Yet plain as these answers are, we believe the woman who asks our advice is sincere in her doubts as to what is right and what is wrong.

Why?

Because our own sins have a way of looking beautiful to us. Haven't you noticed that? Of course she would not doubt that her neighbor was sinning if *she* did such things. But our own sins, especially our sentimental sins, look different to us from our neighbor's!

She tells us that his wife is beautiful, whereas she herself is not pretty. To have won his love is thus a special triumph, and triumphs are sweet, surpassingly sweet.

Oh, yes, it will be hard to give up her lover and his caresses. But then, virtue *is* hard. Why don't we women admit that? We have pretended too long that virtue of this special kind is easy to every decent woman. Is it?

I for one am full of compassion for this woman in the lonely struggle she must make against her sin. After a while, however, she will win her battle. Then she will understand that nothing is more worth while than a clean conscience which gives her the right to look her neighbors straight in the eyes. And when she has mastered her own soul she will then know the "peace of God, which passeth all understanding."

HELEN J. KEYES.

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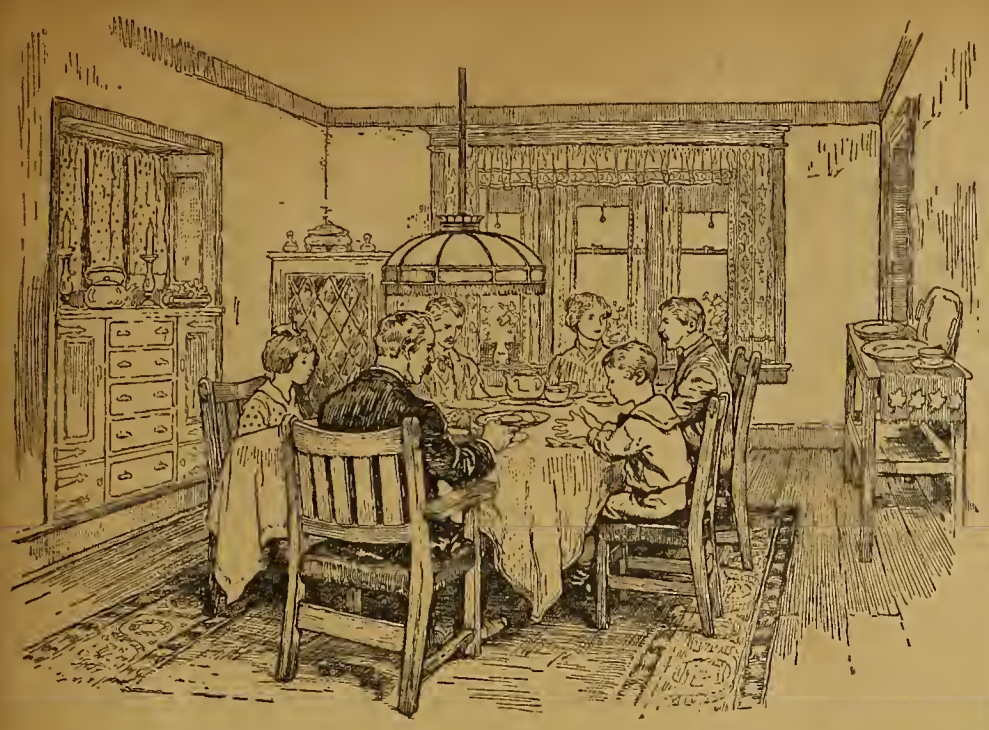

The Dining-Room

What to Plan For as You Look Ahead

By ALICE PRESTON MILLS

IN PLANNING your new dining-room, by all means consider a good location and plenty of light. East windows are a great joy, for they flood the room with morning sunlight, and nothing can be more conducive to pleasant "breakfast tempers." No matter where the windows are placed, low or high, plan the sills wide enough to hold some blooming plants and a fern or two.

Haven't you gone into a room which was perhaps scantily furnished but whose windows were full of blossoming plants, and felt the cheer and beauty gained by their presence?

Our pleasure is more dependent on colors, too, than we realize. A certain fixed law demands light shades of warm colors in gloomy rooms, while sunny rooms need cool grays or greens or blues to soften the glare. It is almost always wisest to use a plain paper on the walls, as it is most restful; so in any room with cold exposure use this paper in warm yellow or soft brown, or tint or paint the walls in this color.

If you must have a figured paper, choose one in a good design in yellow and brown and a touch of blue.

Paint the woodwork cream, not a dead white; or stain it a warm nut-brown. If the floors are in good condition, stain and wax them; but if the wood is poor, fill all cracks carefully and then apply two thin coats of brown paint, being very careful to let the first coat dry well before adding a second one.

The dining-room rug should be so large that the table and chairs may all sit upon it, and it should be sufficiently heavy to lie straight when the chairs are moved about. If your rug is a light one, however, tack it at the corners so that it will not be continually rolled into wrinkles.

Many lovely colors may be brought in by rugs, but be careful to choose a good design. One with a plain brown center, bordered in darker brown and yellow, with a touch of red or black, will be good.

The curtains for the windows in this room may be of écru net or scrim, or even cheesecloth of a soft cream tone, while side curtains of burnt-orange silk, a conventional patterned cretonne with warm yellows and reds, or unbleached muslin dyed to this same orange shade would be lovely. If you wish to use just one set of curtains, madras and scrims come in figured patterns in these same warm colors, and are beautiful.

Since we are not supposed to lounge in our dining chairs, the mission style is very pleasing.

Table and Chairs

There are several good styles of dining tables to choose from, but all things considered, the round pedestal table offers most satisfaction to the purchaser. Be sure that the table sets firmly on the pedestal.

Both polished and waxed finishes are popular, but the waxed finish is easier to keep in good condition, since an application of wax and a thorough rubbing will remove any scratches which may appear. If your table is a plain pine one, try finishing the top attractively, and between meals keep it covered with a centerpiece if it is round, or a runner if square.

Have you ever used doilies and runners made of plain linen, in place of the long heavy tablecloths? They save much laundering, and make the table very dainty and attractive and always clean.

If you insist on the large cloths, try this hint for protecting them from the dusty clothing of the field hands. Purchase a white duck jacket—such as is worn by a drug clerk—for each man, and ask him to slip it on at meal time, explaining how it will lessen your work. One of these jackets may be worn a week, and need not be ironed when laundered.

Please don't say that you have no time for picking flowers. During the summer one of the children, even a little tot, will be glad to have the picking and arranging of them for a definite task. In the winter a small fern is lovely, and needs little care.

Do not pick out your chairs at random, but see that they match the table in wood and finish. Leather seats will add a pleasant note of color, and also make the chairs more comfortable.

If you are to have a buffet, select one of the smaller ones, unless your dining-room is very large, otherwise it will crowd every article of furniture in the room. A nut-brown table, chairs, and buffet would be nicest in the room just described.

Comfort by All Means

A good position for the buffet is against the wall between dining-room and kitchen. Try cutting through the wall near this a window-like opening into the kitchen, with a broad shelf on each side. This will allow dishes for serving, or soiled dishes, to be passed from one room to the other. In addition to saving many steps, this window will offer restful glimpses of the other rooms when you are at work in the kitchen.

A velvet-lined drawer protects silver from scratches. Canton flannel may be substituted with equal satisfaction. Be sure that you have planned ample drawer space for table linen.

A serving table is a convenient accessory, and this should be placed near the kitchen door, as it holds the extra service for the meal. If you desire a table of this sort, but do not care to spend the amount required for the regulation serving table, obtain a rather long, narrow pine one, stain it carefully, first testing the stain on a sample of similar wood, and rub it to a soft gloss with wax. Cover with a runner, and you have your serving table at a nominal cost.

Nothing so mars the restfulness of a meal as glaring lights in one's face. Lights are, as a rule, hung about four inches too high. Remember this if you wish to use a hanging lamp. If you place your lamp on the table, have a soft pink shade over the globe to reduce the glare.

No room in the house is so likely to present a "cluttered" appearance as the dining-room. Never put in it any furniture or bric-a-brac inappropriate to what the room is used for. What could be more lovely for the decoration of a buffet than a pair of brass candlesticks, an old pewter teapot, or a little squat brass one, a copper or brass tray, and a dull blue bowl of nasturtiums? Avoid cheap decorated china, but do not despise common pottery in solid colors. For ten cents a low, flaring bowl of gray pottery may be bought, and filled with pussy willows or a bunch of rose apples it is a thing of beauty.

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The Editor's Letter

At Coolfont Farm, May 10, 1915

I HAVE received a letter from a friend in Virginia which throws such a flood of light on the queer manner in which we mix up our religion and our greed, that I feel constrained to philosophize about it a little. It will be perfectly plain to all why I omit the name of my correspondent. He is an old and good friend of FARM AND FIRESIDE, and I know he will pardon the use I am making of his letter.

I have been greatly interested in your writings [says he] and am coming to you for advice as to the best way to get a cancer cure before the public. I have been hoping to get an interest in this cure for twelve years, but only succeeded lately, as it was controlled by an old mountain farmer, and he would not sell or make known the formula for any price. He is now dead, and his son controls it. We want to get it introduced, but have not the money to advertise, but think if we can get some cases we will prove that cancer can be cured without the use of the knife.

This is no fake, and we are willing to treat a reasonable number of cases free of charge (deserving ones) and in case of failure to effect a cure we will refund traveling and hotel expenses.

There was a ring of honesty about the letter which impressed me. I had no idea that the remedy is what this man believed it to be. Scattered all over the civilized world are men and women who have what they suppose to be secret formulae for curing cancer by plasters. In many cases these people believe sincerely in their own remedies. I believe they do sometimes cure cancer. They do what the knife would do. They use caustic preparations which kill the flesh of the cancer and the near-by parts, and the whole thing sloughs off. Physicians could apply plasters which would do the same thing if they cared to do so, but the surgical operation has been found by years of study to be the best.

I do not condemn the cancer quacks absolutely. I think them mostly an ignorant lot, blinded by their own self-interest, and confused by the baffling character of the terrible disease with which they are meddling. They rank with the madstone people.

A man is bitten by a mad dog, and a porous stone which is surrounded with a fog of legend and superstition is stuck on the bite and allowed to adhere until it falls off. The victim feels better in his mind, and unless the dog had rabies does not get it. Therefore, in the minds of the credulous—and the owner of the madstone may be quite as sincere as anyone—the person was saved from hydrophobia.

Fake "Cures" That Do Harm

The tragedy of the thing is that once in a blue moon a person is induced to rely on the madstone who really has been bitten by a mad dog. In this case the madstone fails, and the person dies in horrible agony. That is forgotten, or laid to Providence, and the mysterious power of the madstone is believed in as implicitly when next it "saves" the life of a person fanged by a dog which is not mad but only out of temper for the moment.

So with "cancer." Thousands of lumps in the flesh and sores on the surface are called cancers. Thousands of them would never develop into anything bad if left alone, and could be cured by any physician easily. These cases are "cured" by the cancer quacks in great numbers.

With these thoughts in mind I wrote to my correspondent as follows: "I do not believe that any man who possesses the secret of healing such a disease as cancer has any right to keep the thing a secret. I do not believe that the policy of making money out of it can be harmonized with the principles of Christianity. Can you imagine Jesus doing such a thing? As a matter of fact, I have no faith in the remedy of which you write, though I have no doubt of your perfect honesty when you say you believe in it."

Unwittingly I laid my finger on my friend's tenderest spot, as will appear from the letter I received in answer to mine, from which I quote:

I will try to make my position plain, and show you what my life aim has been so you may be better able to advise me. Since boyhood I have desired to be an instrument in God's hand to benefit my needy and suffering fellowmen: particularly those suffering from physical ills, and in the education of the poor to better ways of living, all to the glory of God. I have not much of this world's goods, but God has blessed me with good health, and I have clean hands and a clear conscience, and am ready to meet my God. As to this cure for cancer, I have known of it for twelve years, and have been hoping to get an interest in it and make it known to the world. The present owner will give me all I can get for it above $25,000.

What I desire, and feel I am entitled to, is to get a good home for my family, and a small amount for me to work with, and all above that to be given to the educating of missionaries to spread the pure and unadulterated Gospel. For the glory of God I want to make money out of it. Now I have tried to make this plain to you, and will gladly consider any suggestion you may see fit to make. I assure you that if it were in my power to give this secret to the world I would gladly do so, but in my condition financially I do not think I am acting selfishly, for those we treat are to name their own price, and where there are cases in which neither they nor their friends are able to pay, we will treat free of charge.

If all the people were massed together who are anxious to get rich for the glory of God, the mighty host would make the Czar's army look like a corporal's guard.

This Man is Responsible

This man has no cancer cure, but he thinks he has, and his moral responsibility is just as great as if he really had one. If he saw a caravan of people wandering in the desert parching for water, he would consider himself a criminal if he kept secret the place where a cool spring of living water flowed, and yet he will not consider making public the formula of this "cure." He is willing to give a drink to any man who comes along who can't pay for it, or who has no friends able to furnish the money, and he will allow the thirsty one to assess himself for the price of the water, but the location of the spring he keeps secret. He is willing to give a drink to a few "deserving ones" dying of thirst, in order to advertise the water. Can anyone imagine a sufferer from cancer who is not "deserving"?

Don't feel contemptuous toward him. Search yourself and see whether you would do differently in his place. I am not holding him up to condemnation. I am making his case a text from which I want each of you to preach your own sermon. Getting rich for the glory of God is no monopoly of the cancer quacks.

Do not trust those who claim to know where there is a spring of knowledge which they are concealing from their suffering fellow creatures. They are deceivers, either self-deceived, like my friend, or conscious swindlers.

Herbert Quick

Always in Good Humor

HE WAS RIGHT

The teacher of a class of small children recently gave a physiology lesson on the bones of the body. The time to ask questions had come.

"Who will tell me what the backbone is?"

The question was a poser, and no one ventured a reply.

Finally the teacher detected a gleam of hope in Sammy's face, and smiled encouragingly at him.

"Well, Sammy?"

"The backbone is a long, straight bone. Your head sits on one end, and you sit on the other," answered Sammy.

NO HOMES

There are no homes in suffrage States.
No children happy, wise, and good.
Men there no longer seek for mates,
And women lose their womanhood.
I credit this without debate,
And yet I ask, and ask in vain,
Why no one in a suffrage State
Has moved to change things back again.
—The Woman's Journal.

PHILADELPHIA is to teach geography by moving pictures. That is about the only way to keep up with European geography.—Indianapolis News.

JUST ONE ANSWERED

"If any man here," shouted the temperance speaker, "can name an honest business that has been helped by the saloon, I will spend the rest of my life working for the liquor people."

A man in the audience arose. "I consider my business an honest one," he said, "and it has been helped by the saloon."

"What is your business?" cried the orator.

"I am an undertaker."—Oregon Journal.

WHY DRAG IN NEW ENGLAND?

Our German friends may think they hate the English, but they don't know what hatred is. The real article is that which vitalizes a line-fence feud in New England.—Chicago Tribune.

THE polecat appears to be the only thing in the world that can remain neutral and please both sides.—N. E. A.

ALL IMPORTED

"How about the sanitary conditions at your hotel? Is everything healthy?" asked Jimpson.

"Waal," said the rural proprietor, "nobody ever ketched nothin' at my house what hadn't been brought there by some outsider."—Judge.

AT ODDS

LIZA—"When yer goin' to git married, Polly, my dear?"
POLLY—"Never."
LIZA—"Why?"
POLLY—"Well, yer see, I won't marry Bill wen 'e ain't sober, an' he won't marry me wen 'e is."—London Tatler.

LUTHER BURBANK may be all they say he is, but we'd like to see him raise a garden in a city lot with eight boys in the family to the north and a chicken fancier on the south.—N. E. A.

WISDOM

Don't nurse a grudge,
Oh, foolish guy;
'Tis wisdom's mark
To let it die.
—Detroit Free Press.

NOT BUSY

"Is your father a Christian?" asked the Sunday-school teacher.

"Yeth, ma'am," replied Johnnie, "but since the war broke out he ain't a workin' at it."

FARM and FIRESIDE

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Farm Scales Stop Leaks

The Pennies and the Dollars Saved Increase the Profits

By WILLIAM JOHNSON

"DO I FIND that it paid me to invest in those wagon scales? Well, I certainly do. Had 'em eight years now, and not to say anything about the convenience and satisfaction, they've saved enough to pay for their cost a half dozen times."

These are the words of a farmer friend of mine who is a neighborhood standard of the practical business man. His judgment is worth much because he has proved that it is good. In twenty-eight years he has paid for the biggest farm in the community, has accumulated more live stock and machinery than any of his neighbors own, and has the finest house and barns of any for miles around.

He began with practically no capital at all, and has had one man's full share of sickness and other setbacks.

"I did it by looking after the little things," he says. "Most any farmer will look after the big things. He'll plow his fields well, harvest his crops in time, feed his stock liberally, and so on. But it's the man who gets down to details, aud takes care that no penuies and dollars are leaking away here and there, that makes real money on the farm. That's why I bought the scales. They opened my eyes to a lot of little losses I'd never noticed before, and that a man simply can't afford in a business like farming where profits at the best are none too big."

It is the custom in this commuuity, as in a great many others, to sell cattle to traveling buyers. The cattle are not weighed. The buyer estimates the weight and makes an offer, and the farmer gets more if he can, but—well, some of these buyers build up fat bank accounts in a short time. My friend had some steers to sell one day wheu a buyer arrived. I don't recall the exact price the buyer offered, but my friend considered it $20 or $25 too low. They couldn't agree on the weight of the cattle. The buyer contended that the best one wouldn't weigh a thousand pounds. He didn't know about the scales. The steers were driven onto the platform, weighed, and found to average considerably better thau a thousand pounds. My friend got the extra $25 he had asked for and was thankful to the scales.

How much money farm scales would save in thousands of communities where this system of cattle-buying prevails, it is impossible to estimate with any degree of accuracy. But I don't believe the above is an extreme case. I have seen cattle "lumped off" to buyers, on farms where I have worked, at prices that any man who kuew anything about the matter could not fail to see were much too low.

The Farmer is a Merchant

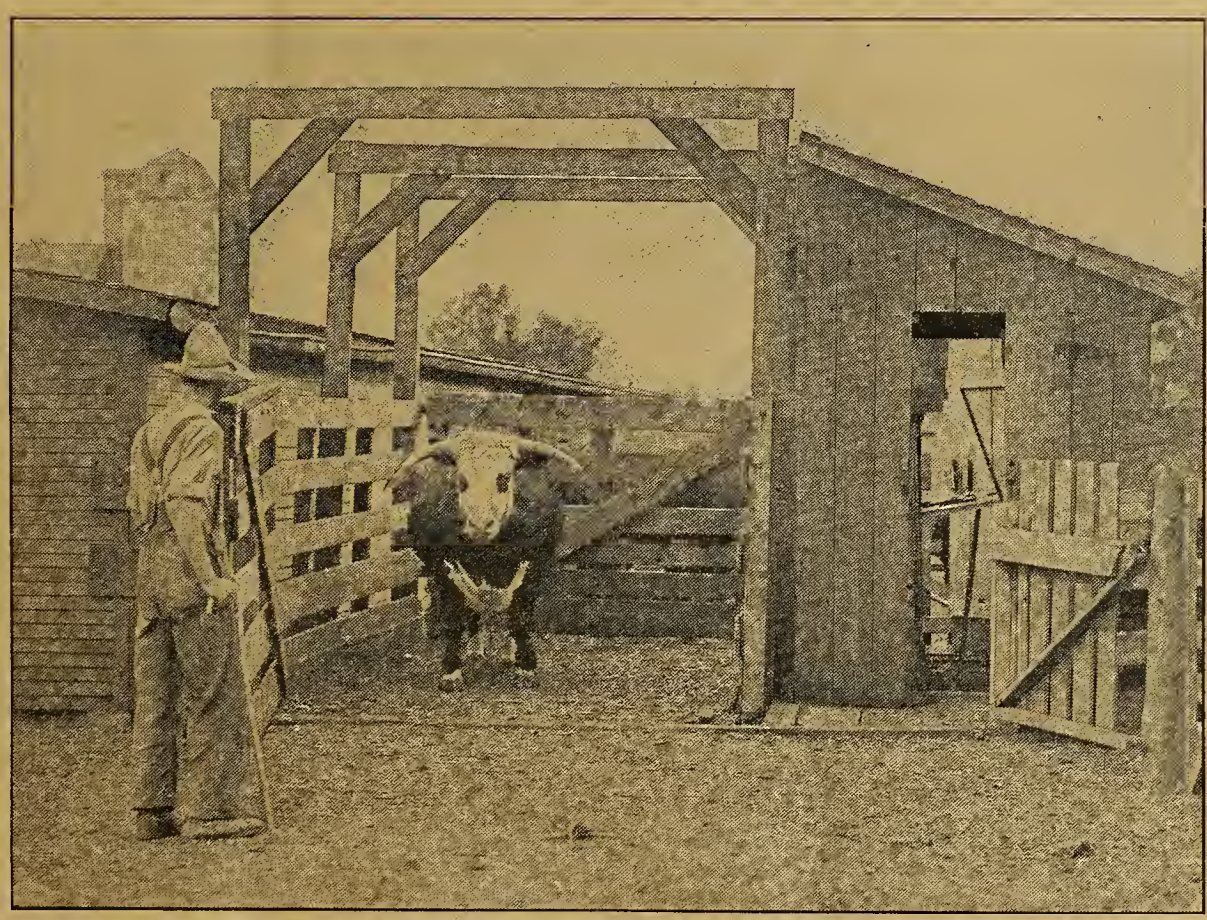
And it isn't a businesslike way of doing things. Honest transactions, that will be fair and satisfactory to both buyer and seller, demand some exact measurement of the commodities that change hands. Imagine how long any merchant would stay in business who "lumped off" the things he sold. The farmer is a merchant to the degree that he sells things. And he should put business principles into his merchantry. He should know exactly what he is giving for the dollar that he gets. He can't always know unless he has scales on his farm. It will profit him in more ways than one to look after this phase of his business. For one thing, the men with whom he deals will have a higher respect for him.

I have heard bankers and merchants say about such farmers as the friend I have told you of: "There's business to that fellow, he knows just where he's at." They put it to his credit that he used scales and pencil and paper and checkbook.

His credit with the merchant or banker was better because of that fact. He was one of them in that he was a practical business man.

One Can't Make Money by Guessing

It is certain that the man who would apply true business methods to his farming must have scales on the farm. And by business methods I mean, mainly, knowing the cost of production and the exact amount of products sold. Surely this is necessary if a man would keep cost inside of returns, and get full returns. The time when a man could more or less safely guess at these matters, or ignore them entirely, is rapidly passing. High-priced land, labor, and equipment demand that we stop the leaks.



One can tell if the live stock makes profitable gains by the use of farm scales. The live stock can be weighed singly or in small lots whenever desired. The sites and the arrangements of the scales depend a great deal on the locations of the feed lots and the pastures

Take for instance the production of beef or pork. When a man is putting high-priced feed into cattle or hogs he should know how much gain he is getting for a given amount of feed. The experienced feeder can make a pretty fair guess, but it's only a guess. The scales will show him exactly where he stands. By varying the rations from time to time and noting results on the scales, he can work out the most economical ration for his use. He may know just when to let go of the stock, and he discovers the animals that are uot making profitable gaius. By selling these as soou as possible profits on the eutire venture will be measurably increased. When the stock is sold the scales will tell him just what it weighs. Allowiug for shrinkage, he knows its exact value.

This is as it should be. I thiuk a man should not kick about the present marketing system until he knows what it cost him to make the product he sells. If he doesn't know, how can he be sure that it isn't possible to produce profitably at preseut prices? How can he know if his farm isn't equipped with the means of finding out? Why should he kick if he ignores business methods and pays the price of neglect?

My friend, with whose opinion of farm scales this article begins, says that his scales have increased the profits from his feeding 10 per cent—that he finds beef production profitable. And he is as busy as any man who may think he has not time for all this weighing. When I mentioned that point to him he said: "I'm too blamed busy to do anything that don't pay as much as it's possible to make it pay. That's why I bought the scales."

With dairy cows scales are just as valuable as with steers or hogs. It's easy to weigh an average day's or week's ration of hay and grain. It's easy to weigh each cow's milk on a spring balance scale hung in a convenient place, and to jot down each cow's production. Then you can find the shirks and the profitable animals. If you have not a Babcock tester, you can arrauge to have samples of the milk tested at your creamery or cheese factory; but better have a tester of your own. All of this takes time of course, but for the time a man gets as good or better pay than for the time he spends milking. It makes the milking profitable by euabling him to weed out the boarders, and by showing him the best animals from which to raise his future herd.

Get any useful thing on the farm and you will find plenty of use for it. You will develop uses for it that you cannot see at the time of installing it. It will soon become a necessity, a thing of profit and convenience. I have known men to build silos, or buy gasoline engines, or install scales, almost against their best judgment at the time. In a year or two they were enthusiastic advocates of the value of their investment. They didn't see how they had got along without it before. Some of us may not see it that way with regard to farm scales because we have not yet been educated to a sense of their value. But we certainly need to be.

Every thinking farmer knows that the welfare of our class is intimately connected with the development of our business ability. And the development of a man's business ability logically begins where the money end of his business begins—with the selling of things, the knowledge of how mauy pounds he gives for a dollar, and of how much feed it took to produce the pound of live stock while it was being made ready for market.

There is in every farm community a great deal of dealing between farmers. It has been my experience that the more prosperous farmers weigh everything they sell or exchange. And they are thought noue the less of by their neighbors for so doing. In fact, they are the more highly respected because of it. The comment commonly made of such a farmer is: "That fellow's got a head for business." And his head for business profits him both directly and indirectly. He gets paid for every pound he sells, while giving his neighbor a square deal. Nine times out of ten it's these men who have "heads for business" who are elected to the local offices of profit, trust, and honor.

Business Methods Pay Dividends

I am not trying to point out any royal road to political preferment by intimating that if a mau installs scales on his farm he will forthwith be elected town chairman. The idea is otherwise. If a mau puts business principles into his farming he will have scales on his farm, and he will be more prosperous. And because of this he is apt to make other advauces.

In a certain town that I have in mind there is only one grain buyer, who accordingly has things all his own way. I won't say that he is dishonest, but one farmer who is not alone in his criticism of the buyer's methods told me this: "Don't make any difference if

I fill the bags as full as I can, or only fill 'em within eight or ten inches of the top, I get just about the same weight anyhow." Suppose it were true that this man were getting short weight to the extent indicated: it would amount to a considerable sum on the season's crop. Wouldn't it pay him handsomely to have scales on his farm? There are then two things that he might do. He might weigh his grain, and if the weight differed materially from that given him at the elevator he could have a little heart-to-heart talk with the buyer, and I think it would clear matters up. If not, he could have two or three of his neighbors help him weigh a load and, they being as much interested in the thiug as himself, between them they could pretty certainly bring the elevator mau to terms. If they failed, the law provides recourse, and the knowledge of crooked treatment might hasten the day of a farmer's elevator, which would be a beautiful victory for the farm scales. Of course the farm scales would have to be accurate.

There are doubtless buyers, here and there, of farm produce who make mistakes easily. Maybe they don't make them intentionally, but it loses the farmer exactly the same amount as if they did. I have never known a man who had scales on his farm to have any trouble in this way. He knows just what each load that he sells weighs. He can tell the buyer, and sometimes that helps. And the knowledge leaves no room for suspicion in the farmer's mind. He knows whether or not he is getting a square deal, and can act accordingly. The satisfaction is worth much.

We Can't Afford to Give Away Our Crops

All of these utilities of the farm scales demand that they be first class. It is better to pay a few dollars more to get such scales. And a man should always get a test weight with his scales so that he may keep them tested up and accurate. The scales should be well installed and located in a convenient place. It is often possible to earn a little money by weighing loads for neighbors. A small charge, say 10 cents a draft, will be paid willingly for this service.

If a man can't install wagon scales he should at least have scales in the granary or barn capable of weighing up to 500 pounds. They are one of the details of farm equipment that will simply work their way into the necessities of the owner. After he has used them six months he would as soon have half the shingles taken off the granary as to lose the scales.

And the good wife will set the same value on good scales provided for her use. She will find daily use for them, weighing butter, the jars into which it is packed, ingredients for cooking, packages to be mailed, and numerous other things.

It's a fact that a man cannot feel the true dignity of his position unless he has the completeness of equipment that makes the independence which lies at the root of dignity. Scales are as much a part of this equipment as are plows and harrows. They make for economy in feeding operations, surety in marketing, and satisfaction in all bargaining where weights are involved.

Your crop is your money. You can't afford to give any of it away by feeding an animal that does not make sufficient gains or production, by a faulty ration, by guessing at the weight of produce sold, or by trusting entirely to the buyer's say so of weight. Let us give the things we sell a weigh before we sell them.

The Farm Machinery Outlook

The Possibilities of Many New Tools Will be Told in Farm and Fireside

By THE EDITOR

FARMING in America is a matter of machinery more than anything else. Without machines we should be degraded as farmers to the condition of the Chinese peasant whose life is one long, desperate struggle with Nature, with no aid but his own aching bones and muscles.

Whatever freedom we as farmers have from such degradation we get from the use of machinery. It is such a common thing with us, and we usually forget its importance. But it is perhaps the most interesting thing in every-day farm life.

Many of us are too apt to think the great era in invention in the business of farming has passed, and that new things for farm use stopped with the invention of the cotton gin, the steel plow, the reaper, the Marsh harvester, the wire binder, and the twine binder.

Believing thus, we are not all using the best machinery we might use. This is because we don't find out about the new machines, usually, until after we see them displayed by our dealer or announced in the advertisements. Often we buy antiquated machines when we might just as well get better ones. Anyhow, no matter what we decide to buy, we desire to know what new farm machinery there is on the market.

The new things in farm machinery will be told in many articles in FARM AND FIRESIDE during the summer. Diligent work by inventors has produced devices which will make your work easier and more profitable.

A Filipino has invented and patented a plow which is so novel that all of the examiners in the United States Patent Office searched in vain for anything like it.

An entirely new principle of power is used. The machine is a hand plow for use in such countries as the Philippine Islands, where the very poor farmers haven't the oxen, horses, or other power to stir the land deeply. They scratch the ground with sticks, or hitch women to a rude, cheap plow, and do the best work they can. Their hard life shows what farming is without the needed machinery.

This new invention in plows works by moving a lever up and down. When the lever is lifted, a claw back of it is pulled forward. When the lever is pushed down, the claw braces into the ground and the plow is pushed through the soil. The inventor, Mr. Salvador Alunan, who lives at Jaro, Philippine Islands, asserts that with this novel tool a man can plow one fifth of an acre a day. This is nearly as cheap as horse power in America.

No matter what we decide to buy, we all want to know the news of what there is on the market. No man wants to buy in ignorance of what might be had.

Modern Devices Save Money

FARM AND FIRESIDE proposes to tell its readers the news as to the machinery supply. There's plenty of news, never fear. We have been looking around seeing what we might see, and our eyes have been opened, we can assure you. A hunt of two weeks has yielded an average of two new inventions a day.

Important inventions? Yes, important inventions. Important, because they help our labor to conquer acres and time. You can't make an acre any smaller—it stubbornly insists ou occupying 160 square rods. You can't make a day any longer. It will expire at the end of twenty-four hours—aud the farmer will expire too, unless he sleeps away some of this time. But machinery combats time and acreage. Invention has made man master of more acres in a day. Not only does it give him mastery over more acres—on the surface—but it gives him control over deeper acres, acres running farther down into the ground. That's one of the good things about that humble little Filipino plow—it gives the Filipino peasant more acre feet to the farm.

Any invention in the American field which does this is important. Farming is a severely competitive business. We can't afford to overlook any new thing which will enable us to compete more successfully. We have to buy machinery of some kind, so why not keep up with the times and buy the best if we know what the best is? It costs no more than the poorest, and if profits are considered, the best is the cheapest. The best is whatever fits your conditions.

Present-Day Inventors Have Done Wonders

Beginning with the next issue we shall tell you of our talks with practical farmers who have tried out the improvements, with inventors, designers, and manufacturers, those who know farm machinery.

One man can plow one-fifth acre a day with this hand plow, according to the inventor, Mr. Salvador Alunan of Jaro, Philippine Islands. The tool is worked by moving a lever up and down

There's a plow out with a universal hitch so it will work with any engine. There's one so arranged that you can ride on the engine and draw the plow, or you can put a seat on the plow and drive the engine from there. There are alfalfa cultivators which will cultivate the ordinary alfalfa field without hurting the crowns. There is a lister which will keep the rows exactly the same distance apart. A seeder for kafir-corn seeding is now to be had.

A new machine treats the seeds of clover, alfalfa, sweet clover, and other legumes so as to save from a third to a half the seed—and the money you pay out for the seed. There's a little hand seeder for alfalfa. There are lots of new cultivators. Deep tillage and subsoiling machinery are going through many interesting developments.

Mowers now have two speeds so that where the grass is light it is easier on the horses and the machine. There are gasoline hay hoists now which deliver the hay anywhere in the mow, as if they had been educated for it. These for the big hay farm. Grain has been cut in fields so wet that it stood in water—with a new device to help out the flooded farmer.

We shall show you a new grubbing plow which cut through a stump a foot in diameter—and took it out of the ground.

There are many interesting new attachments to old implements by which they can be made to do better work or more of it. A combination of rolling colter and jointer which will work in stubble and trash, for instance, and a colter disk which disks the ground just ahead of the mold board.

A new starter for a farm gasoline engine sounds interesting, doesn't it? A new lime and fertilizer distributor will sow lumps as big as hickory nuts, and will work with moist stuff.

These are a few of them. We don't know how good they all are, but we do know that they are good enough to be studied by the intelligeut farmer in any State.

The age of invention aud improvement is not over. It is in full swing. To understand it you must read FARM AND FIRESIDE this summer.

Uninteresting work, lack of a share in the farm business, bad schools, lack of society, and the plague of chores have had their part—more than anything else—in driving the boys from the farm to the city.

Chores have to be done by hand. The hired man can quit if he is not treated well, and is often to be seen sitting down resting after the day's work, while the farmer and his sons are doing the chores. Chores are not so irksome, however, to the boy who has been riding on some efficient piece of machinery as to him who after ten or twelve hours of leg-wearying or back-breaking labor comes to the barn for two hours more of ministration to the stock.

And even in the matter of doing the chores machinery is coming in to ease up the drudgery. There is news in that field too.

The milking machine is doiug on thousands of farms that task which is distasteful to every living animal except the calf and its dam. The cream is skimmed by a gasoline engine and a separator, the churning done by an engine and a churn.

The hauling of manure is cut in half in its drafts upon the patience of the farmer by the manure spreader—aud the spreader does the work better than a fork ever did. We hope to tell you about some other stunts the humble spreader can do. One man loads beets, rutabagas, aud such stock food on the spreader and shoots them into the root cellar by jacking up the driving wheel and turning the wheel by hand. Another threshes beans with it. Before we get through with these articles we expect to have huudreds of our readers writing in, telling us of such stunts and giving experiences with different sorts of machines.

But returning to chores! The boy who has used a tractor all day is relieved of the necessity of taking care of the horses the tractor has displaced. There is no manure to be cleaned out of the shed in which the tractor is placed. It does not need to be fed or watered. Its shoulders never get sore. There is no cruelty involved in driving it to its limit night or day, or both, in the worst of the hot weather.

Machinery is in itself an educator.

What Do the Women Think?

There are farmers in the far-off countries of the world whose entire outfit of machinery is not worth more than two dollars.

These farmers are a down-looking people, poverty stricken and oppressed. Their faces are bowed to the earth as servants of the race. Give a boy a machine to do his work with, and his face turns forward and upward. As long as our farmers do their work with machinery the American farmer will continue to be the firm basis of American life.

There is more money wasted in machinery on the farms of America than on anything else. We waste it because we do not study machinery and its care as we might. Nothing would be more interesting as a branch of public-school work than the study of farm machinery.

We ask every farmer to get into this discussion of farm machinery and help keep it going. The boys are invited to take a course in farm machinery with us.

And aren't some of the women offended because we haven't said much about household machinery in this article? We hope they are, for when they are offended they are prone to speaking out, and that's what we desire.

As we use the machinery this summer, let's study it. We'll bring you our machinery news. We hope you will send us in yours.

E-W

Farming During the War

How the Conflict of Nations is Affecting European Country Life

Photo by Underwood and Underwood

Turning the battle-scarred land of France and of Belgium into blooming fields is the work of these 52 plows, teams, and men. This is only a part of the large force used. The ground is plowed and planted by the soldiers for $1.50 the acre, which is paid by the farmer. Thousands of acres already have been plowed and planted, while thousands more will be. All of the horses and cattle were commandeered—farmers were compelled to sell their live stock at a fixed price—by the governments at the beginning of the war. And the farmers were left in many instances without means to cultivate their farms

Photo by Underwood and Underwood

Throwing a few of the family's belongings into a wagon, and fleeing from an invading army, is not a pleasant experience, but many European farmers and their families are going through this sort of thing. The opposing armies are seesawing back and forth much of the time

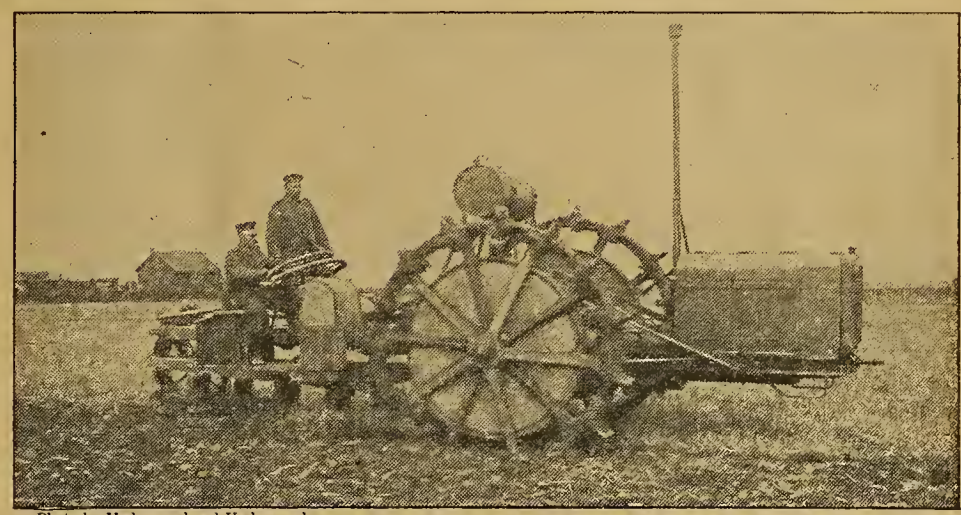


Photo by Underwood and Underwood

Huge motor plows, which turn several furrows at one operation, are used in parts of France, where the armies have been fighting, to prepare the land for the 1915 crops. The sharp-faced lugs on the wheels keep the ground in the furrow from becoming packed, and prevent the wheels from slipping

Photo by Underwood and Underwood

Whenever an army needs more supplies than it can get from its base of stores, it demands the persons of the country through which it is passing to furnish the food desired. This is called requisitioning. Here are some of the sheep the soldiers have requisitioned. Mutton is a favorite army meat

Photo by Underwood and Underwood

The persons living in this town were saved from the horrors of starvation by the farmers, who brought foodstuffs many miles, after the town had been bombarded, stripped of all supplies, and cast aside by an invading army. The farmers ran great risks in making such a trip

Photo by Underwood and Underwood

While this French farmer boy, because his father and older brothers are in the army, is preparing a field for the planting of crops, which means food for his mother and younger brothers and sisters, an armored motor car passes the field. An army may come along any minute and trample the crop into the ground

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Canada is Calling You to her Rich Wheat Lands

She extends to Americans a hearty invitation to settle on her FREE Homestead lands of 160 acres each or secure some of the low priced lands in Manitoba, Saskatchewan and Alberta.

This year wheat is higher but Canadian land just as cheap, so the opportunity is more attractive than ever. Canada wants you to help to feed the world by tilling some of her soil—land similar to that which during many years has averaged 20 to 45 bushels of wheat to the acre. Think what you can make with wheat around $1 a bushel and land so easy to get. Wonderful yields also of Oats, Barley and Flax. Mixed farming is fully as profitable an industry as grain growing.

The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

M. V. McINNES, 176 Jefferson Ave., Detroit, Mich.
W. S. NETHERY, Interurban Bldg., Columbus, Ohio
Canadian Government Agents.

Farm Notes

6,000 Miles of Trees

By M. G. Franklin

TWO hundred rows of pine trees, running due east and west, each some 300 miles in length, extending across an entire State, 6,000 miles all told—such is the ambitious plan of a member of the Iowa state legislature, J. S. Michael of Sioux City.

He would have the forestry department of the state college of agriculture at Ames grow and plant the trees without expense to the property owners, so as to fringe the north side of every highway running east and west on a section line and continue across the fields where there is no highway on the line.

"There are many advantages to be derived from such lines of pine trees," declares Mr. Michael. "In the first place they would protect the roads in wintertime and keep them open to traffic in the worst snowstorms. Then they would conserve the moisture in the adjoining fields, where the farm crops are dependent in such large measure upon the soil's supply of moisture during the summer growing season, and would do away with the lingering banks of snow and ice on the north side of the roads in the early spring, allowing the sun and the south winds to play upon them, unobstructed by any trees on the south side of the roadway.

"The planting of these trees would convert part of Iowa's prairies into a tree-growing country. They would pay their cost in a few years in the saving of fuel, they would provide homes for thousands of birds, and they would make for the better health of everyone in the State. Pine trees are noted for their healthful properties, being particularly beneficial in their effect upon tuberculosis."

Mr. Michael succeeded in interesting the Iowa legislature in his novel plan, and it will probably be tried out, on a small scale perhaps to begin with, in the next year or two. He has the endorsement of the botanical department of the state university, the head of which announces that scientific experiments have proved the value of lines of trees bordering fields in their prevention of evaporation and consequent retention of moisture. The department has recently made the interesting declaration that proper care of these highway borders, such as Mr. Michael is championing, would prevent the highways from drying, while they would at the same time guard the moisture of the fields from evaporation.

The Farm Nevertheless

By F. R. Finch

IT SEEMS to me that stories of failures as well as successes do good to those leaving positions in the store or factory.

Our first loss was during our first year of married life. We had rented ten acres with the privilege of purchase. There was one-fifth acre strawberries on the place, and from the patch we sold $60 worth. So we set an acre and expected $300 the next season. But Jack Frost came along late and we realized only $25 for our whole crop.

We planted another acre, but the grub worms and drought came. Results, $50; and we were paying a high rent. Then we put 60 tons of manure and one ton of high-grade fertilizer on six acres and set it in tomatoes.

Good judges estimated the yield would be 500 bushels an acre. But owing to one of the worst droughts we ever had late in the season the yield was less than 100 bushels an acre, and for every good tomato eight were bad from dry rot. Our tree fruit was a failure at the same time. Lately we have had better results.

Anyone going on the farm for the first time should know of the failures he may have. Too much sunshine or not enough may make short crops. Then there is hail, wind, cold, and heat not just when we would like it. It's best to work for some good farmer a few years and learn how.

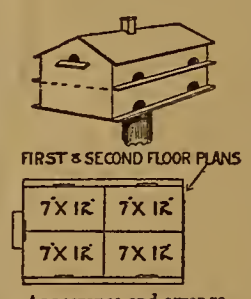
We have many other failures in corn, wheat, potatoes, and all lines. But even with the failures we wouldn't live anywhere but on the farm.

We expected some failures, and we were not disappointed. Here in southern Ohio about three out of ten back-to-the-landers succeed.

Martins Drive Out Sparrows

By C. D. CAMPBELL

WHEN a boy, I was interested in a colony of martins that made their home every summer in a bird house on top of a pole opposite our house. Three years ago I got to thinking of them, and wondered if there were any martins up here in central Ohio.



Appearance and arrangement of my martin house

To test the matter I put a box on the stump of an old locust tree, about eight feet high, and then waited, but no martins came. Thinking the location was too accessible for enemies, the next spring I put the box on top of a 12-foot pole, and was rewarded in a short time by seeing birds building nests in it, but they were English sparrows. However, about the middle of April I saw some martins on the box, and then we had fighting all along the line.

The dozen martins whipped out the sparrows and took possession of all but one compartment in the attic. The box is 14x24 inches in size, with two floors and an attic, divided into ten rooms, four on each floor and two in the attic.

The martins raised two broods and left about the middle of August. Last spring the sparrows again took possession and built their nests. About the first week in April I saw one lone martin inspecting the intruders. Finally he grabbed a sparrow, and they both fell to the ground fluttering and clawing each other.

They broke holds when they struck the ground, and both flew back to the box, where the fighting was resumed amidst much chattering, the sparrow being reinforced by others. Many times the martin would grab a sparrow, and the two, fighting, fall to the ground. Outnumbered, the martin would fight until he was exhausted, when he would alight on the limb of a cherry tree almost beneath the bird box; but as soon as he was rested he started the attack again. This he kept up half of the afternoon, and then flew away. In a couple of days two martins came, and the sparrows had all they could do to hold the fort. But these two martins went away and left the sparrows in possession.

In about a week, however, reinforced by the whole colony, the two martins came back, and the way they pitched those sparrows out, bag and baggage, was a sight. The martin does not mind crowding, and three or four pairs of them will inhabit the same compartment in peace. Each pair rears from four to six young at a hatching, and they hatch twice a season; so if you get a start you soon have quite a colony.

Surrounding my home are a dozen locust trees, decayed and hollow in the tops. The English sparrows driven from the bird boxes made their nests in these trees. About the first of August we heard a great outcry, and the air was filled with martins and sparrows.

We rushed out to see the battle. The martins with their whole original colony and their two hatchings had attacked the sparrows in the trees, and the fighting was furious. The sparrows were whipped out, and the martins took possession of the trees. Then it rained straw, hay, and trash, for they threw the sparrow nests down to the ground. We counted 70 martins perched on various top limbs after the fight, and with those still flying around there must have been at least 125 martins in the mêlée. The next day they all disappeared.

Where martins do not have boxes they build in hollow trees. They get their living on the wing, and even drink as they skim along over water. I have never seen one alight on the ground, except when it fell off its perch in combat. They do not mind man's society, and will fly around you in the field, catching insects you have disturbed.

For two years my cucumber and melon patches adjacent to their home have not been disturbed by bugs, and I have given the martins credit. They will skim through the air while you are hoeing among the vines, often sailing within a foot of you after moths and winged pests.

They are the strongest of all the swallow tribe, having very thick necks and bullet heads, and will not hesitate to attack cats or dogs, and they easily whip the hawk and the crow.

Spinning Along Prosperity Lane

How Motor Cars Affect Farm Life

By M. G. FRANKLIN

IN THE right-hand drawer of the combination writing desk and bookcase in a certain farm home in eastern Kansas you will find two newspaper clippings carefully preserved by a loving mother. Both were taken from the Neighborhood Correspondence of a weekly newspaper published in the near-by county seat. One clipping reads in this manner:

Jim Rankin, the oldest son of John Rankin, our highly respected Mud Creek farmer, has accepted a position with an express company in Kansas City. Good luck, Jim!

The other runs thus:

Mary Rankin, whose father, John Rankin, owns as fine a quarter section of land as can be found anywhere in Franklin County, leaves next week to accept a position in a Topeka store. There was a time when we hoped we could print a much more interesting item about Mary, but we guess that's all off. At any rate, a certain young man is looking mighty lonesome. Our loss is Topeka's gain.

Here was John Rankin, owning 160 acres of fertile farm land, a hundred head of cattle, with an excellent barn and dairy, bidding good-by to the only children he had, under the public pretense of their having "accepted a position," when everyone knew that Jim's job was handling a truck, and Mary's clerking in a ten-cent store. John Rankin could have bought the ten-cent store had he been so minded. Why did his daughter quit the old farm home and go to the city to work from eight in the morning until six at night for about enough money to pay her meager room rent and board?

Beneath the faded press clippings there are two letters which tell the story:

"I wanted pretty things, Mother," wrote Mary, a year after she had quit the old farm home. "Everything was so old-fashioned at home, and you and Father were so busy you wouldn't have the house fixed any different."

Need a Little Play Too

Jim's letter is a little longer, and more detailed:

"The other boys had a chance to get out around the country, even to drive to Ottawa now and then, behind a good team or in an auto, but you know as well as I do, Mother, that Mary and I had no such chance. The trouble was it was all work and money-getting. When crops were good, Father got more stock or more machinery. He didn't get the things we craved, the things that would have kept us on the farm. I can remember when Bert Jackson's father bought an auto. I would make fun of it to-day. It wasn't much more, I guess, than a gasoline stove on a truck, but it ran and it took the whole family all over the country, to picnics, for pleasure rides on hot nights, to town on business, or for a lark. I used to stand and watch it go by when I was plowing or working around, and while I guess it was only a 'one-lunger,' and wheezed and smelled frightfully, it looked awful good to me then. But would Father hear of us getting one? Not on your life."

Those clippings and letters are several years old now. As one drives out now from Ottawa toward Mud Creek, a vista of peace, plenty, and prosperity extends before him. Alternate checkerboards of shimmering green and waving gold greet the eye as corn, wheat, kafir, and oats bend in the wind. A turn of the road and a silo comes into view, for Farmer Rankin's neighbors learned their lesson year before last, when sixty days of 100-degrees-in-the-shade temperatures fired the corn, and home-dug pits saved the crop on many a farm. But that was not the only lesson the Rankin neighbors learned.

Another turn of the road, past several of the best-built and best-kept of all the farmhouses, and you stop before a plain frame building, twice as long as it is wide, four-windowed on each side, for all the world like thousands of country schools and yet unlike them. It is the Mud Creek clubhouse or Community Center. Inside are a hundred or more young folks from half as many farms, bright-faced, eager-eyed, happy. There is no longer any necessity for going to near-by Ottawa or to more remote Topeka or Kansas City; innocent fun and uplifting entertainment are to be found here in this rural clubhouse, week after week, the year around.

But this is not all. Look around as you drive up: the road is parked with automobiles of all kinds, from the cozy roadster of a humble make to the lordly touring car with nickel-plated attachments which mean every convenience. "With everything possible on it except a mortgage," as one rural wag expressed it.

When John Rankin's neighbors learned that Jim and Mary, whom they had known from babyhood, were going to Topeka and Kansas City not so much to "accept a position" at starvation wages, as to secure the amusement which every healthy, growing animal craves and needs, perhaps they knew that something must be done, and quickly, to stop the movement cityward, to keep the other boys and girls on the farm. The rural clubhouse and the farm-owned automobiles seem to be the answer.

Motor cars increase the attendance at state and county fairs

More motor cars are being bought to-day by farmers in Kansas than by city folks in New York.

Why?

So that Jim Rankin's boy friends and Mary Rankin's girl chums will stay by the old farm and make merry the home which would otherwise be bereft of their presence and their happiness.

If you will multiply Franklin County by a thousand and John Rankin's neighbors by a hundred thousand, you will arrive at the situation as it exists the nation over so far as the farmer and the automobile are concerned.

But this does not complete the story. There remains another day of the week to consider. Let Dr. Henry J. Waters, president of the Kansas State Agricultural College, add the other chapter, the one which tells of Sunday spent in the near-by town or city, at soul-inspiring, mind-uplifting services, supplanting those of the dilapidated country church, now abandoned by the thousands all over the grain belt, largely because of this very adoption of the motor car.

"Formerly it was a difficult job to get to church," says President Waters. "Riding in a farm wagon or in a spring wagon is not particularly comfortable, and if the farmer and his family are jerked along over rutty, rough roads by a team of old plow horses, they are not in an exceptionally enjoyable frame of mind during the church service, and the lessons might all be jolted out of them going home. But there are some twenty thousand or more Kansas farmers that own motor cars, and there are thousands of miles of good dirt roads in the State.

"The farmers are now a reading and studying class, thanks to the rural route and the introduction of the daily and weekly newspapers and the magazines.

Church Attendance Increases

"It is no trick at all for the farmer to get up on a Sunday morning and, after doing his chores, crank up the car and drive ten, fifteen, or twenty miles to the city for church service. There is the pleasure of the trip and there is the church service itself. A pipe organ or an orchestra beats a squeaky reed organ in every way, and the singing of a trained choir with good accompaniment adds to the effectiveness of the services."

Is it any wonder that this has been a determining factor in thousands of farm homes, when the question "to buy or not to buy" has come up for final decision? The near-by country church, set in a tangle of overgrown underbrush and weeds, ministered to, perhaps, once a fortnight or once a month by a town man knowing little or nothing of the farmer and his spiritual or mental needs, with music that only charity could dignify by such a name; over against this the town or city church with a trained preacher, good music, and a pleasant ride back and forth?

A larger out-of-town attendance than ever before, and yet a smaller number hauled by the railroads, was the record of the Iowa State Fair last year. The answer was found in the thousands of automobiles which lined the various thoroughfares and overflowed the allotted spaces.

Two-cent fare or three-cent fare, it is immaterial: the farmer with his family is driving to the state fair nowadays in his own machine.

Bringing farm and farm, town and country, into closer communication, the automobile has more than justified and paid for itself by enabling the farmer to take advantage of market fluctuations, to shop economically, to familiarize himself with conditions, and to acquaint himself with city people.

It has justified and paid for itself by saving the time of the work team, by making possible quick trips to town for machinery repair parts or necessary supplies, by a thousand and one ways the story of which is now old through oft telling.

But always equal to, if not above, the factor of practical utility is that element of all-around satisfaction and enjoyment to every member of the farm family.

Jim Rankin, standing wearily by the sweating team of plow horses, fanning himself discontentedly under the burning rays of the hot sun, watched the Jacksons' car whiz by, and there came to him thoughts of the city, so that handling a heavy express truck seemed preferable. How many a boy and a girl the farm motor car has kept on the farm there is no way to tell, but the roll call would well-nigh have no end. And the pleasure of rides on moonlight nights, with the whole family in the machine—to church, to sociables, to Chautauqua, to club, or even just on and on with a zest and an exhilaration which nothing short of a blowout can mar—who is there to rise up and say that this is not of value far greater than the money invested in farm motor cars—immense though the amount is—to the man who, because of a ten-billion-dollar crop output the last two years, can well afford the individual expenditure?

Buy 425 Automobiles a Day

The average farmer is not a financial spendthrift, even with $1.50 wheat. Yet what is the situation with regard to the automobile? Take the ten States of the Middle West known as the grain belt: Illinois, Iowa, Minnesota, Nebraska, Wisconsin, Missouri, Kansas, South Dakota, North Dakota, and Oklahoma. Four years ago these ten States owned 130,000 automobiles, the proportion of farm machines was perhaps one in ten. The number of motor cars in these ten States has quadrupled in the last three years, and more than doubled in the last two years, so that on January 1, 1915, by figures furnished by the various secretaries of state, the number of cars was 559,730. Of this immense total fully one half belong to farmers. The number in the ten States is increasing at the rate of 13,000 machines a month, 425 a day. The average value of these machines was $980. Farmers bought one half the total number. The farmers in these ten States are spending more than $200,000 a day for new automobiles, to say nothing of accessories. In these ten States alone the automobiles owned and operated by farmers cost over $250,000,000. An immense amount to invest in cars, to be sure, but it can well be afforded, since the corn and oats crop of Iowa alone for one year would pay for every farm-owned automobile in all these ten States.

For a time the fear of accident deterred many farmers from buying motor cars. But that is all gone to-day. It was a bogey far more frightful in imagination than in reality.

"Motor vehicles are the least dangerous, judged by the fairest test, the number of miles run, of any," says Francis M. Hugo, secretary of state of New York. "When their speed and their weight are taken into consideration it is nothing short of marvelous that so few accidents are caused, when so many motor vehicles run so many miles. Taking their number in New York as 170,000, 1,800,000 in the United States, and assuming each runs 100 miles a week, a tremendous mileage of 884,000,000 miles is covered annually by New York cars alone.

"According to the latest report of the National Highway Society the number of deaths caused by motor vehicles throughout New York amounted to 520, giving an average of one death to every 1,500,000 miles run. Is there any other kind of locomotion which can show so good a record?"

A larger number of stay-by-the-land farmers will result if the lives of the present generation of the young men and young women of the farm are made more pleasant.

In view of the general utility, the minimum of danger, the maximum of satisfaction, the comfort and pleasure to every member of the farm household, is there any wonder that the farmer of to-day, learning the lesson from many and many a Jim and Mary Rankin, is buying an automobile and whirling along Prosperity Lane with not a care or bother to strike a discord with the purr and hum of the engine?

Bringing farm and farm and town and country into closer communication means much satisfaction and enjoyment to every member of the farm family. The motor car thus justifies its use and pays for its keep. Miles of level roads promote motor travel

INSOMNIA

Leads to Madness, if Not Remedied.

"Experiments satisfied me, some 5 years ago," writes a Topeka woman, "that coffee was the direct cause of the insomnia from which I suffered terribly, as well as extreme nervousness and acute dyspepsia.

"I had been a coffee drinker since childhood, and did not like to think that the beverage was doing me all this harm. But it was, and the time came when I had to face the fact, and protect myself. I therefore gave up coffee abruptly and absolutely, and adopted Postum for my hot drink at meals.

"I began to note improvement in my condition very soon after I took on Postum. The change proceeded gradually, but surely, and it was a matter of only a few weeks before I found myself entirely relieved—the nervousness passed away, my digestive apparatus was restored to normal efficiency, and I began to sleep restfully and peacefully.

"These happy conditions have continued during all of the 5 years, and I am safe in saying that I owe them entirely to Postum, for when I began to drink it I ceased to use medicines."

Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.

Postum comes in two forms:

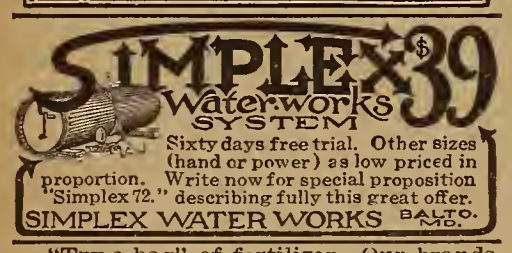
Postum Cereal—the original form—must be well boiled. 15c and 25c packages.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage **instantly**. 30c and 50c tins.

Both kinds are equally delicious and cost about the same per cup.

"There's a Reason" for Postum.

—sold by Grocers.



"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore.—Adv.

An Army of Worms

By Leroy Calhoun

OUR experiences with army worms last July will certainly help us this year. Among our neighbors where there was no attempt to save the crops, entire fields of oats were practically destroyed, and cornfields with a growth two feet high were trimmed to stumps.

Our crops consisted mostly of garden truck, a field of oats, and a patch of sweet corn. The worms passed right by the vegetables to get to the sweet corn.

We like sweet corn ourselves, so we planned a fight. A quantity of kerosene emulsion was made with which the sweet corn was thoroughly wet. We took pains to have the leaf cavities containing the worms well drenched. This saved the corn and it matured finely.

Scientists tell us that the army worms, like the poor, are always with us in smaller or larger numbers, but it is only when conditions are especially favorable that they develop into serious pests.

There are three or four generations in a season in some sections of the country; and if the first generation or two flourish, midsummer may find a vast devouring army confronting us.

These worms appear and disappear suddenly. They are a mystery to those who have not studied them. Our work of course is to make them disappear.

When Crops Fail

By B. F. W. Thorpe

FROST, flood, hail, or insect pests, or a combination of these, often destroy all chances for a crop from our first seeding. What then?

Such failures should not mean the loss of income from a field for the entire season if we are alert for the main chance. Reseeding with the same crop often results in disappointment. Here is where the catch crop can help win the farm game.

There is a long list of catch crops that fit different conditions of soils, climate, and moisture. Among these are: Rape, sugar corn, flint corn, barley, cowpeas, soy beans, buckwheat, the sorghums, including Sudan grass, vetch, rye, and wheat.

Some of this list may also be used to advantage for double cropping to follow successful early crops.

For an all-around catch crop, suitable for producing rapid-growing succulent feed for hogs, sheep, poultry, and any farm stock except cows in milk, rape is hard to beat. The cost of seed is usually small, though it is almost impossible to be obtained this year on account of the European war. Two to four pounds drilled for cultivation, or double the quantity broadcasted, is sufficient.

Rape, barley, and clover as a combination catch crop will furnish a lot of excellent pasture from midsummer to time of killing frost. Five pounds of rape and a bushel of barley or half barley and half wheat and two or three or four pounds of red clover seed per acre will provide excellent "succotash."

Rape—one of the best catch crops

For example, we will say wireworms, frost, hail, or poor seed has spoiled the chance of a profitable corn crop from the early seeding.

I have found that another, quicker-maturing variety of flint or sweet corn can be drilled close to the original rows without much damage to the remaining corn plants of the first planting. In this way can be secured considerable well-matured grain and a profitable crop of fodder without much additional labor. Insects that destroyed the first seeded crop are often beyond the destructive stage when the catch crop is seeded.

Under other conditions cowpeas, soy beans, or any early maturing variety of sorghum will make a surer crop when late planted than even quick-maturing corn on account of the greater drought-resistant quality.

A half-and-half cowpea and sorghum mixture south of the latitude of the Ohio River, when drilled 30 or 36 inches apart, may answer the purpose better. In this case 30 pounds of mixed seed per acre will be about right.

Amber sorghum for the more northern latitudes, and Sumac sorghum farther south, using 15 pounds of seed drilled for cultivation, will fill the hill better for some soils and climates than will the soys and cowpeas.

Where grain is wanted more than fodder, barley may be best to follow a corn or other early crop failure. Four to five pecks per acre is about the seed required for barley.

In more northern latitudes buckwheat drilled at the rate of 2 to 3 pecks per acre late in June or early in July may be profitable as a catch crop, but buckwheat is rather uncertain as to filling unless weather conditions are favorable.

Millet is a staple catch crop for soils rich in plant food where plenty of fodder for feeding green, for hay, or for silage is needed. This crop, like buckwheat, is of value as a soil cleaner by smothering weeds.

The leading millet varieties are foxtail, Hungarian, German, Pearl, and a Japanese variety sometimes sold under the name of "Billion Dollar Grass." The two last-named varieties are best adapted for soiling and silage, and can hardly be considered true catch crops.

Millet—a crop that may serve several purposes

These larger varieties of millet are not so well relished by stock as the smaller-growing varieties. The millets require an unusually well-prepared seedbed and plenty of fertility within easy reach.

Broadcasted or drilled solid, about 2 pecks of seed per acre are required. When cut for hay, do not wait until the heads are fully developed. When grown for seed, from 15 to 40 bushels per acre may be expected.

Wheat, rye, and vetch are not usually put in the category of catch crops, but under some conditions they can follow early potatoes, buckwheat, or similar early-maturing crops or other crops that have been destroyed by army worms, hail, blight, etc. These three last-mentioned crops, when sown in late July, August, or September, will serve for cover crops as well as for catch crops, and will also protect the soil from washing and leaching plant food during the fall and winter. At the same time they will furnish needed late pasture and early spring pasture, soiling fodder, or grain, as the case may be.

The value of the combined catch and cover crop is becoming more and more appreciated in the older sections of the country. The soil improvement as shown on succeeding crops has had much to do with this.

Sand Conquered by Muck

By C. B. Cook

MR. ROGER REED of Allegan County, Michigan, purchased a few years ago a farm with a history. At an early day this land was made to grow wheat as a regular crop until no more available phosphoric acid was left to produce grain. As the wheat crop failed, the whole area was set out to peach orchard. This in turn was cultivated until no humus was left to grow even a peach crop. Thus reduced to a critical condition where many strips formerly of good sandy loam were becoming blow sand, this farmer began the job of reconstruction in earnest.

Anxious for all the information he could get, Mr. Reed joined our Allegan County Farm Bureau.

Close at hand was a ravine where a muck bed lay some 15 or 20 feet deep. A sample of this muck was sent to the station chemist for analysis, and pronounced 3 per cent nitrogen more or less unavailable, and nearly all pure humus.

What an immense reserve of fertility! Just the elements sorely needed on any worn-out soil, also the ones most difficult to get. With a manure spreader both muck and marl taken from a bed nearby were distributed. By the addition of a liberal dressing of acid phosphate this soil bids fair to beat its old record, for now it is bearing good crops of grain and clover.

ON LANDS in Montana which were too full of alkali to allow of the growing of crops the trouble was remedied by the plowing under of rye as a green manure. Enough rye grew to serve the purpose, and the alkali was reduced to a quarter of its original strength in one year.

Ten-Second Topics

WHEN timothy hay is worth $10 a ton, good corn silage is worth $4. But see how many more tons can be grown on the acre. Moreover, silage is juicy, while hay is dry.

PEACHES are grown on 683 farms in Maine. Pretty far north, too.

NONE of us minds slipping on the peeling so long as it wasn't somebody else who ate the fruit.

EXPORTS of breadstuff since the war began are over three times what they were for the same period last year.

IF A NAIL is driven into a tree trunk it will always remain the same distance from the center of the tree and from the ground.

EMMA D. STOKES, a fourteen-year-old Texas girl, grew on an acre of land 232 bushels of Spanish peanuts and 2.17 tons of peanut hay. She won a prize of $300.

WHEN choosing between two forage crops, other things being equal, plant a legume. It will put nitrogen in the soil, and nitrogen is the most expensive fertilizer to buy.

IF YOUR land isn't inoculated with alfalfa, sow a few ounces of alfalfa seed with every crop of clover. The inoculation will thus be introduced gradually, and before you know it your land will be ready for alfalfa or sweet clover.

THE Kaiser has several enemies, but consider the alfalfa weevil—on which feed the blackbird, the meadow lark, the quail, the frog, the toad, and the salamander, not to mention a host of less active foes. And still the weevil flourishes.

BROME GRASS is a very valuable hay and pasture grass. It would have been sown on thousands of acres more in the past ten years if it had not been supposed to be impossible to tell its seeds from those of quack grass. People were afraid of sowing quack mingled with the brome grass. Now Professor Dahlberg of Minnesota has worked out a method of telling the two seeds apart.

A Home-Made Camera

By A. E. Swoyer

PINHOLE photography, as the lensless process is called, is too well known to require lengthy description. For ordinary work take a small wooden box and make it absolutely light-tight. This may be done by securing a box free from knots or cracks and then carefully painting it inside and out with dull black paint. Have a space for the plate holder at one end, the pinhole being mounted on the other. The plate holder must fit tightly and allow no light to leak in.

Some little care is required to make a pinhole free from jagged edges. First secure a piece of thin tin—an ordinary can cover will do nicely—and dent the center slightly with a nail so that a projection is raised on the opposite side. Rub this projection with an oilstone until the metal is very thin; then punch a hole in it with a needle not larger than No. 8, and revolve the needle in the hole until the edges are smooth and the aperture perfectly round.

Next bore a hole, smaller than the piece of tin, in the front of the box, and tack the metal over it so the centers of the two holes correspond.

No shutter is necessary. Exposures are made by withdrawing the plate-holder slide and returning it after the proper time.

With a camera of this kind, beautiful pictures of landscapes, or figure studies, may be made, the exposure varying between thirty seconds and one minute.

Good for Inside Views

If you already have a plate camera, there is no need to make the special box. Simply make an extra lensboard and fit the pinhole to it in the manner just described. With such an apparatus, you can take many views which would have been impossible with the regular lens.

Thus, should you wish to take the interior of a house—for which purpose a wide-angle lens would ordinarily be used—simply extend the camera bellows a short distance and you will find that the pinhole view will give you three sides of the room and show objects close to the camera as well as quite far away with equal distinctness. By moving the bellows in or out you will find that you can include as much or as little of the room as you desire.

If you are interested in photography and have never experimented with the pinhole, you have missed one of the most fascinating parts of the work.

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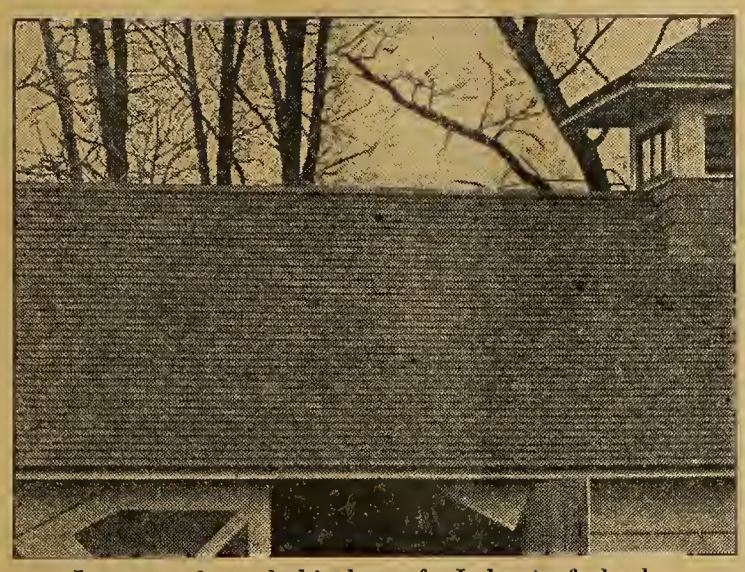
The Roof Over Your Head

A Second Article on This Subject

By D. S. BURCH

This roofing looks like individual shingles, but comes in long strips, each of which covers 100 square feet



Just a good wood shingle roof. It has its faults, but still remains popular in most sections of the country

MINERAL - COATED roofings have an asphalt-and-felt foundation with crushed stone or crushed slate on the top. Such roofing will not easily catch fire from burning embers, but if subjected to intense heat will burn slowly.

When smoothly laid it gives a pleasing effect. All the best grades are made of strong, long-fibered felt and put together in two or three ply.

I have used this kind of roofing for siding, and when put on with wooden strips in panel effects it resembles a stucco finish. The stone coating is more adhesive than you might suppose, and will stand weathering but not bending or rough handling.

A good way to compare the durability of different grades and makes is to nail pieces down on the barn floor where they will be walked on. Leave them there for a month. You cau judge from the way they stand this test which is the most substautial.

Mineral-surfaced roofing costs from about $1 to $3 per square. Shingles of the same material cost about $5 a square. This sort of roofing made in three-ply will last about twenty years, and is usually guaranteed for from half to three fourths of that time. And don't forget your writteu guarantee.

The so-called rubber-composition roofing contains little or no real rubber, but is given this name because of certain mineral substances that make the roofing look and feel like rubber. These substances make the roofing material waterproof.

A First-Class "Rubber" Roof

Ordinary "rubber" roofing is made of felt treated with medium-grade asphalt and crude oil. Here is the statement of a farmer who has used this kiud of roofing: "In the year 1903 I built a shed open to the south, and roofed it with two-ply rubber-composition roofing. At the end of seven years I examined the roof carefully and found it to be in very good condition. This was in uorthern Illinois. The shed roof was well braced so that it could not warp or twist.

"The sheathing of the roof was of old boards, and their thickness was by no means uniform. But when a thick end was encountered I had taken pains to cut down the thicknesses at the ends. This cutting took but a little time when done with a sharp hatchet. The boards were cut on the under side so that the top surface of the joint was perfectly smooth. On this I was very particular.

"The roof was laid in bitter cold weather, but I followed the directions of the manufacturer exactly. The material weut on smoothly, and the roof has never leaked a drop in its ten years of service. It will give good service for several years more, aud then I shall not hesitate to put on another roof of the same material."

This may be an unusual case, but at least it shows that careful workmanship in laying the roofing pays. Rubber-compositiou roofing costs from about 75 cents to $1.75 per roll, which covers 100 square feet. It is one of the cheapest roofings.

This is a Spanish tile roof. Though attractive and practically everlasting, it is one of the most expensive

Tarred felt is still cheaper, costing as low as half a cent per square foot. It is hardly worth putting on except for temporary purposes. Tarred felt is more commonly used for deadening sound in partitions and floors.

Slate Roofs—Good and Bad

The mere mention of slate roofing in building circles usually starts an argument. I was talking with an experienced roofer the other day, and he said: "If I were building a house for myself I'd have one thing if nothing else, and that one thing would be a slate roof. It lasts a lifetime and is the best roof to be had, all thiugs considered."

Another roof expert said they were unwieldly and heavy, weighing about 700 pounds to 100 square feet, also that they cracked and blew off and were continually needing repairs.

I have lived in two houses with slate roofs and have come to the conclusion that a slate roof of only the highest grade is worth putting on, and that such a roof is excellent. When living in the first house, a half-bushel basket of broken slate could be picked up around the house after every freeze and thaw followed by a windstorm. Theu the roof would leak until it was repaired. But the other slate roof gave no trouble at all.

Theoretically slate is an ideal roof. It neither rots nor rusts, nor curls up, nor discolors rainwater. It looks well on nearly all forms of architecture. Its greatest fault is brittleness and, secondly, it is hot in summer and cold in winter.

Slate is heavy, and the freight on it is considerable if you are not near a quarry. Here in Springfield, Ohio, a slate roof of good grade costs between $8 and $10 a square, including the work of laying it.

One roofer here said his slate roofs would last fifty years, but he would guarantee them for only three years.

Terra-cotta tile is unquestionably beautiful and durable. It is practically everlasting, needs uo paint aud seldom any repairs. But its great weight requires an extra strong rafter construction, and its high cost will make the average purchaser think twice before he spends $12 to $18 per square for it. A tile roof looks best on substantial-looking buildings of stone, brick, or concrete.

V-crimp roofing is a popular metal roof which gets its name from its V-shaped standing seams. These seams serve as a water-tight joint, besides strengthening the metal sheet and allowing for expansion and contraction. V-crimp roofing comes in sheets of conveuient size, and can be laid directly ou the rafters, providing crosspieces are placed wherever the joints lap.

But, of course, this does not make as substantial a roof as when sheathiug boards are used.

It can be had in 2-V or 3-V styles; the 3-V roof simply has an extra seam pressed in the middle to give more rigidity.

The price of V-crimp roofing ranges from about $2 to $5 per square, according to the quality of the metal. The wearing qualities, like those of corrugated iron and steel, depend on the quality of the metal, and whether galvauized or not. For long service the heaviest gauge metal, galvanized, is the best investment.

Wood Shingles Continue Popular

The glamour of newness sometimes makes us overlook the proven worth of old things, and one of these "old things" is a wood shingle roof.

One experienced carpenter who has tried a good many different kiuds still believes that good oak shingles of heartwood make the best roofing investment. If laid five inches to the weather they will last over fifty years, he says.

Nowadays oak shingles are scarce; cypress and red cedar are used extensively for high-class buildiugs. They will give good service for about fifteen years, and last longer if kept in good repair.

Good-grade wood shingles cost from $4 to $6 per thousand.

The reputation of wood shingles has suffered considerably from the use of poor shingles. I have seen fir shingles sell as low as $2.50 per thousand, but fully 10 per cent of the shingles were imperfect, and the roof made from the rest of them leaked almost from the start because they shrunk.

You can increase the durability of wood shingles by treating them with shingle preservatives. This costs about $2 per thousand shingles, which, though a good investment, adds just that much to the expense of your roof.

You can see from what has been said that the ideal roof still remains to be found, and the man who discovers it will be secure against the proverbial rainy day.

Here is a barn roof of V-crimp metal roofing which shows that it can be laid even on curved or irregular surfaces

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HERBERT QUICK, - - - - - - - - Editor

May 22, 1915

The Disk Harrow

IT NEARLY always pays to prepare land before plowing.

The disk harrow is the best tool for this preparation.

It mixes the stalks, stubble, and other vegetable matter with the surface soil.

It prevents the soil from drying out before the plowing can be done, and may be a great protection against drought.

It cuts up and mixes with the furrow slice the green manure crop, if one is being turned down.

It makes the furrow slice turn over more smoothly, decreases the number of clods, and benefits the seed bed.

By making the land moister and breaking the top of the ground it makes the plowing easier, and causes the plow to pulverize the soil more thoroughly.

If every stubble field which is to be fall-plowed were disked at once after removing the corn or small grain, the yield of grain over the whole nation would be greatly increased.

Backing to the Land

THE city man has usually failed in "backing to the land" because he has had no competent guide.

The county agent is now on the job in hundreds of counties, prepared to steer the tenderfoot from the rocks and briers, to assist him in selecting a farm, and to plan practical methods for him.

For instance: Pete Frant, a railroad man who had never farmed, moved into Logan County, Oklahoma, last year. In order that he might be on intimate terms with the best adviser available he signed up with the county agent, J. A. Farquharson, who made his farm one of several "demonstration farms." He harvested 2,200 bushels of corn from 50 acres, and got a good alfalfa meadow started.

The period of confusion and perplexity and "blues" is over now, and Mr. Frant will be able to take the steering wheel himself.

The county agent is the best buffer ever devised to stand between the back-to-the-lander and the Slough of Despond.

Stockmen and Packers

A FEW years ago a promoter of a co-operative meat-packing company in the Missouri Valley made the stockmen the following offer:

After the farmers had put up the money to put the packing house in operation, he would operate it, and give the stockmen every cent derived from the sale of their beef and pork.

In other words, he proposed to give the farmers a hundred cents of every consumer's dollar.

All he asked was the by-products—hair, horns, hoofs, hides, and offal generally.

The co-operative packing house, for one reason or another, never was opened. The story is told in order to show a side of the meat business which is often neglected. This was recently brought out in an investigation made in Minnesota, in which it appeared that the packers often get less for the beef than they paid for the steer. This is not the rule, but the selling price of the meat is always close to the price on the hoof, and sometimes under it.

Do the packers therefore lose money? Not at all. They make a great deal of money. They so far control the price of live stock that they will contract butchers for their meat supply for a month ahead. All through that month live stock will rise and fall at the yards, but the packers will sell for a fixed price to the butchers. They always know what they are doing; and knowing this, they make money.

The point is that our present packing system gives the farmers more of the consumer's dollar, and more for the stock compared with the prices of meat, than any other system ever devised. The Minnesota investigation referred to seems to show that we actually get about 60 per cent of the consumer's dollar when we ship direct, and even counting out the local buyers' profits, we get on the average from 57 to 58 per cent.

Not that there are not things which we have a right to complain of. At times the failure of the packers to support the market at critical periods has done the business a great deal of harm. Another thing which is wrong is the system of making Mondays and Wednesdays the big days, instead of having buyers for all grades of stock on the market every day. Commission men would like to cure this evil, and perhaps so would the packers. Perhaps the stockmen are somewhat to blame for this Monday and Wednesday glut.

Anyhow, the buyers use it to their own profit and the farmers' loss, for they often put up prices on the off days when they buy scarcely anything, and drop them when the heavy shipments come in, lured by the market reports. This costs the farmers millions yearly. Nothing but organized efforts can cure the evil.

Culling the Pure-Breds

THE Percheron Society of America has this to say to breeders of that excellent draft horse:

"Free use of the knife on unsound or inferior stallions is sound business policy under present conditions. Many stallions of this character have sold in the past four months for less than they would have brought as geldings. The sale of an inferior or unsound stallion for breeding purposes hurts the breeder more than anyone else, for as long as such an animal is retained in the stud the name of the breeder is advertised in the pedigree and the bills to the shame of the man who bred him. Think twice before you retain an unworthy colt, even for sale."

We should say, "especially for sale," for the true breeder should know that an inferior animal will do him less harm on his own farm than out in the wide, wide world.

This good advice applies quite as aptly to all breeders in all lines as to the Percheron men. We have too many pure-bred scrubs, male and female, in the breeding herds and flocks of this country.

The Boys Are Showing Us!

THE boys' corn-club work is worth the study of the men. We have all heard arguments, in days gone by, as to whether or not it is possible to produce a hundred bushels of corn to the acre. It has been done in most of the States in which corn is grown at all—not only by men, but by boys.

A statement is before us showing the results of the work of the corn-club champions in the States of Minnesota, Indiana, Vermont, Massachusetts, Pennsylvania, Nebraska, New Jersey, Illinois, and Iowa. There are twenty-one of these acre champions, whose fields are equal to one 21-acre field. On this area these boys grew 2,238.12 bushels of corn, at a cost of $525.58, or 23½ cents a bushel.

The average yield is 106.1 bushels an acre, the lowest yield 62.5 bushels. The lowest yield for champion is in Massachusetts, and the highest in Pennsylvania, where Frank Rimel grew 148 bushels to an acre, at a cost of about 26⅔ cents a bushel.

Other Massachusetts champions grew over a hundred bushels.

These being club champions, not state champions, the results are remarkable both as to yields and costs. There was a good profit on all the plots, as labor is counted in as a part of the cost.

Mighty few of us who are content with yields of 35 bushels can show a cost of production as low as 23½ cents a bushel.

The disappointing condition is that too few of us are trying to get the results we would really like to have.

The boys are showing us up.

—Chicago Herald

How Baby Got Typhoid Fever

Our Letter Box

Two Days' Work in One

DEAR FARM AND FIRESIDE: At every meeting of farmers, be it grange, club, institute, the same question pops up, "Why do the boys leave the farm?" But no acceptable solution is ever reached.

Let me try to show that the fathers are to blame by keeping in the rut that runs back to the days when all work was done by hand.

The trees were chopped and cleared by hand and the land prepared for seeding with the old-fashioned crude tools, the crops planted, cultivated, and harvested in the same way.

These ancestral farmers were compelled to work fifteen hours or more each day while doing this pioneering, and the same fifteen-hour-a-day grind has been handed down from generation to generation ever since.

This plan of doing two days' work in one will no longer be tolerated by farm boys when they come to know that the mason, the carpenter, the plumber, and shopmen work but little more than half of the farm day.

So, too, are the mothers to blame. Their sons must become teachers, clerks, salesmen, or office men—jobs that will allow white hands, fine clothes, and a spruce, citified appearance. Also, the girls are too often advised by their mothers to marry city fellows.

Don't do it any more, mothers! If you could follow your boy for a month after he reaches the city you would shed tears of regret the rest of your life.

Now tell the truth, Mr. Farmer. Are you giving the boy the opportunity you might? Remember this is the twentieth century, not the eighteenth. Couldn't you make life a little more pleasant?

Have a little more sociability, give your sons a share, let them do some of the business. I know a farmer who never would let his boys work the team. They used the hoes. There were four of them, and they all left home before they were eighteen. Make the boys confidants, ask their advice, make farming interesting, dignified, and honorable.

Don't waste too much time after the dollar and let the boy go to the bad.

I believe the long hours, false pride on Mother's part and, most of all, the drifting away from home affections and pleasures, fault-finding, nagging, and poor reading matter are much to blame for the boy leaving the farm.

F. R. FINCH, Ohio.

Can You Help?

WE ARE trying to form a Parent and Teachers' Association here in our high school. We would be thankful for any information you or the readers of FARM AND FIRESIDE could give us.

MRS. L. P., New York.

Believes in City-Men Farmers

DEAR EDITOR: From a forty years' experience and observation as a country newspaper editor, my sympathies have been closely allied to the soil. I have always thought that the tendency to city life and to the industrial centers was an extravagant effort toward human betterment, and the "back to the soil" agitation a happy trend toward the correction of a folly.

Your reference to Professor Warren's "Suggestions to City Folk Who Want to Farm" (March 27th) leaves an impression that it is a dangerous experiment. I imagine that his deductions are founded upon unfavorable conditions due to climatic disadvantages, and upon too closely computed overhead charges, which may be greatly modified by better selection and judgment.

The fatal mistake of many city people taking to farm life is a rush of enthusiasm before properly planning the future life. They give up good jobs, scant of means, and perhaps they overinvest, depending upon their new efforts and resources to meet expenses that should have been previously provided for.

There are many thousands of city wage-earners who could vastly better their conditions by having their families on small farms of ten, fifteen, or twenty acres properly prepared for production by soil improvement before actual settlement.

You express a doubt as to making land rich by natural processes, but here in Georgia we do succeed by double cropping in oats and field peas. Notable successes are common.

In my neighborhood 3,000 pounds of lint cotton, which carries a seed production of 6,000 pounds, has been produced on three acres; 181 bushels of corn on one acre; 100 bushels of oats per acre, with a second crop of three tons of pea-vine hay; 70 bushels of wheat on two acres; 300 gallons of syrup on one acre; 250 bushels of Irish potatoes on one

EW

acre; 300 bushels of sweet potatoes on one acre; and so on through the list.

With twelve months' gardens, acre orchards of fruit, the cows, chickens, bees, etc., it is no romance as to what the small farm will do. These small farms of any acreage can be bought with a small cash payment and six or eight annual installments within the reach of any worthy man. The only wonder is that there is not a tidal rush for them and the happiness and comfort which they assure. H. A. WRENCH, Georgia.

83 Miles From Railroad

FARM AND FIRESIDE: My flock, my sheep dogs, and I are 83 miles from a railroad, and 33 miles from a post-office. Montana is some State as regards distances.

New York, Ohio, and Iowa are considered good-sized States, but the three of them equal only the 147,000 square miles of Montana. Only Texas and California exceed Montana in area.

My flock now numbers 1,665. Last year at this time (midwinter) the count was 1,006. The loss from all causes during the summer of 1914 was 23.

The 870 first-class lambs that were marketed last fall brought $5.25 per hundredweight. In addition there was the wool crop from 1,700 sheep in 1914, and there will be the wool from 1,600 sheep this year.

Last year we put up 140 tons of hay, but thus far this winter we have had to feed very little. There has been good grazing nearly every day.

The only real cost of maintaining these sheep is the extra men needed during the lambing season, and $50 per month for the herder throughout the year.

The herder stays with the sheep day and night and lives in his camp wagon.

The sheep range out from one to three miles each day, but always come back to the wagon at night to be bedded down.

This pasture costs nothing, as this is free-range country and everyone who is able to get together a flock of 500 sheep or more is making good use of this free range.

From the highest point of my ranch of 640 acres I can count three bunches of sheep similar to mine. Besides the sheep there are bunches of horses, cattle, and antelopes grazing these hills and valleys. S. R. GRABILL.

Ten-Second Topics

LIFE is too short to waste in doing unnecessary things. If the well is too far from the barn, watering the horses wastes life.

YOU can lead a quiet life, but a riotous life leads you.

INTEREST rates are too low on borrowed trouble.

BROKEN promises show the crack even when mended.

THE population of Japan is over half that of the United States.

A PESSIMIST is a person who when offered a choice of two evils takes them both.

WHY let the gasoline engine work out in the barn all the time? There's housework for it to do too.

NEW HAMPSHIRE potato growers say they lost money on last year's crop, and many are cutting down their acreage.

"MAKE the farm feed itself" is the new slogan for the South. A lot of farms in the North might come closer to feeding themselves than they do.

"CORNSTALKS and oat straw are worth $3.50 a ton as fertilizer." So says the Nebraska Experiment Station. Query: Why burn them?

DON'T use lime-sulphur spray on potatoes. It injures them. Use Bordeaux with a little Paris green mixed in. The Bordeaux is for the blight, and the Paris green for the bugs.

A WRITER in the "Rural New Yorker" states that barn owls induced to stay in the barn will not only keep the English sparrows out but will decrease the pest of rats and mice, without harming the chickens. Who knows anything about this from experience?

WHY is a steer a poor feeder? Karns of the Colorado Station has found that in most cases a steer makes poor gains because of foreign bodies like barley beards, foxtail, or something of the sort imbedded in the tongue. Sometimes it is a nail or a bit of baling wire. Occasionally these latter are found in the stomach, the lung, or the covering of the heart.

Why the Engine Balks

By James R. Rice

I HAVE owned and operated a gasoline engine for some time, and have had some perplexing troubles. But these are easily overcome if you take time to study your engine. Some of the greatest troubles are due to ignition.

Starting and stopping spasmodically is due to a dirty spark plug, also to short-circuiting by a cracked plug, a drop of water or oil, or by a loose connection which jostles in and out of circuit.

If your engine won't start, examine your spark by snapping plug to see if spark is sufficient. If not, trace back your circuit until you find your trouble.

When spark is weak your batteries are gone, or almost so; or if your engine starts and runs all right for a while and then stops, it is due to weak batteries, or poor mixture, or dirty gasoline.

When your engine pounds and loses power, your spark is too far advanced. If it back-fires or fires in muffler, the spark is too much retarded. If it misses fire and snaps in muffler, there is too weak a mixture.

If it has a muffled exhaust and loses power, there is too rich a mixture. If there is a knocking, it may be a loose bearing, a loose casing, a dirty cylinder, or a faulty foundation.

These are some of the most bothersome troubles. Always give the engine plenty of good oil—not too much—and keep cylinder well coated to prevent friction.

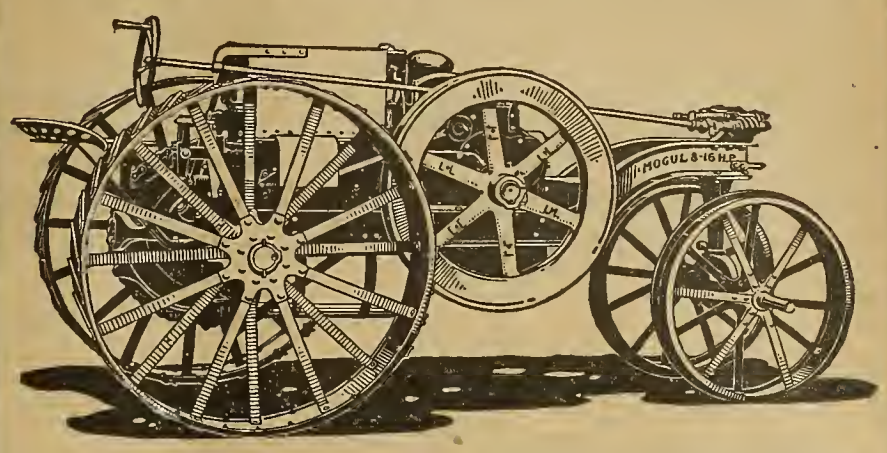
WHAT are the roots of corn supposed to be for? Well, then, why cut them off with deep-running shovels?

WISCONSIN has appropriated $75,000 to pay the State's share of the damages to cattle owners incurred in stamping out the foot-and-mouth disease.

ALFALFA is all the better for cultivation, but the disk harrow or disk drill splits the plant crowns and harms them. The old-fashioned shoe drill is recommended. There are machines especially made for the work which are excellent.

"Better than Horses in Every Way"

The Small-Farm Tractor for All Farm Work



NEVER have we marketed a machine that aroused so much enthusiasm among farmers as the Mogul 8-16 oil-burning tractor. After a thorough trial, here are a few of the things they say—"Better than horses in every way;" "Every farmer should have one;" "Most useful machine I ever had, and so simple;" "Impossible to buy more farm power value for the money;" Why didn't you build it years ago?"

One feature of this tractor that has made a hit is its simplicity. It has a simple one-cylinder engine. There are no intricate gear shifts—you pull one lever to move forward and another to reverse. That's all there is to it—easier to handle than a team.

The cost to you is low—only $675 cash f. o. b. Chicago. Compare the work of the tractor with that of $675 worth of horse flesh and add the fact that it will run any machine requiring up to 16-horse power on the belt. That tells the story. Every farmer with 80 acres or more under cultivation can use a Mogul 8-16 tractor with profit. **If you want a Mogul 8-16 oil tractor for summer and fall work, place your order now**—that's the only way to be sure of prompt delivery. Write to the address below for full information.

International Harvester Company of America (Incorporated)
CHICAGO USA

Firestone

Producing the Proof in Quality and Price

HERE they are—plain as day—the "extras" in Firestone Tires that cost you nothing extra!

Examine the section—note the piled-in values you get at average price; you need the extra fabric; you need that cushion stock—there isn't any in the average tire; why do without it when the cost is the same for Firestones?

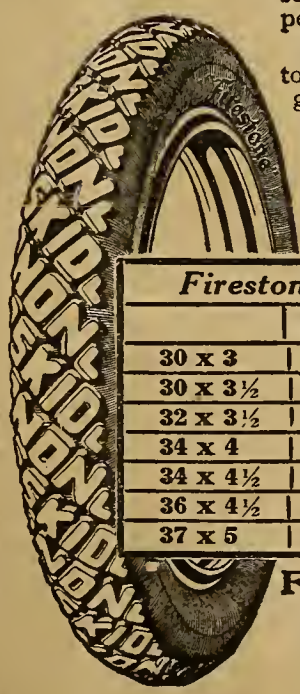
The reason why Firestone Tires deliver so much more Mileage is in the "extras" you see here. And the reason for these "extras" is in the Firestone production—a simple business question of making and selling. Nobody can equal Firestone in Economy of Manufacture and Distribution.

Firestone Tires are made in the Largest Exclusive Tire Plant in America; they are made by experts whom "practice makes perfect"—this saves you money.

Firestone methods of marketing are so managed that you get the tires, tubes, accessories—whatever you need in tire service—with least handling and expense—this saves you money.

Examine the section—remember, too, that you get the same relative degree of Mileage no matter what size of tire you buy. The values are there—beyond question or dispute.

Your dealer has Firestones—for motorcycle as well as automobile. If not, he can get them easily.



Firestone Net Prices to Car-Owners

	Case Round Tread	Case Non-Skid	Grey Tube	Red Tube
30 x 3	$ 9.40	$10.55	$2.20	$2.50
30 x 3½	11.90	13.35	2.60	2.90
32 x 3½	13.75	15.40	2.70	3.05
34 x 4	19.90	22.30	3.90	4.40
34 x 4½	27.30	30.55	4.80	5.40
36 x 4½	28.70	32.15	5.00	5.65
37 x 5	35.55	39.80	5.95	6.70

Firestone Tire & Rubber Company, Akron, O.

"America's Largest Exclusive Tire and Rim Makers"

Branches and Dealers Everywhere

Actual Size 5-inch "Non-Skid" FIRESTONE

Fig. 1. 7 plies of Sea-Island fabric in Firestone —some are satisfied with 6.

Fig. 2. Extra coating of finest rubber between fabric layers in Firestone —not in the ordinary.

Fig. 3. ⅛ inch Pure Para Rubber cushion layer in Firestone —none in the ordinary.

Fig. 4. 3-32 inch Breaker Strip of Sea-Island fabric and high-grade rubber in Firestone —less in the ordinary.

Fig. 5. ½ inch Tread, tough, resilient, gripping in Firestone —less in the ordinary.

Fig. 6. ⅛ inch side wall of strongest rubber in Firestone —less in the ordinary.

Fig. 7. Firestone Bead, built into tire specially for clincher rims in Firestone.

In the ordinary tire the clincher part of bead is only a patch applied to straight side type to fill "clincher" space.

Yet you pay only $39.80 for this 37 x 5 inch Firestone NON-SKID—20% below the average of four widely advertised makes.

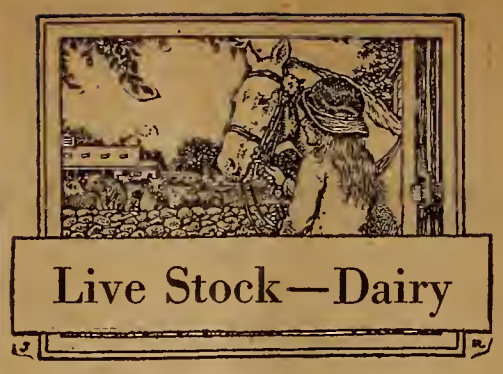
Firestone Tube Bag Free

Send us your dealer's name and the make of your tires and we will send you, free, a fine rubberized Tube Bag. Will keep tubes in prime condition. Write today. Get also, the Book on Care and Repair of Tires. Ask for Book No. 45.

Williamson's Lightning Healing Powder

Cures raw, galled, sore necked horses at once when applied. Keeps every horse on the job. Price 50 cts. Show drug, hardware or harness dealer this ad. We send them one dozen in handsome display box, express paid. Dealer pays us when goods are sold and customer satisfied. Cures or no pay.
WILLIAMSON MFG. CO., Box E, SHEFFIELD, ILL.

THE SCHOOL OF VETERINARY MEDICINE
at the University of Pennsylvania
trains students in all lines of veterinary work. Facilities unexcelled. For catalog, address LOUIS A. KLEIN, Dean, Dept. B, 39th St. and Woodland Ave., Philadelphia, Pa.



Live Stock—Dairy

Premiums for Hired Men

By W. S. A. Smith

TO ASSIST Nature the farmer cultivates his crops. He must also cultivate his hired man to assist Nature by developing brains from labor. The simplest way to do this is to make things for the hired man worth while.

Years ago certain things on the farms came under my observation. When the corn was planted and began to come up early in June we would find that it could not be plowed crosswise because the rows were so crooked. This meant dirty corn and a large decrease in yield.

I tried the plan of offering the man on the planter $5 if the rows were straight both ways. That evening I found him out fixing his machine and wires, and have never had trouble since.

Was this $5 well invested?

Last year I had 60 sows with pig, a hog house of only 12 pens, and a large shed. I knew that with the little pigs coming, from March 15th on I had a problem in handling this outfit. So I took the man in charge and planned a campaign that, if possible, the sows should have their pigs in the 12 pens, but that a day after the pigs were born they must go into the shed, which had been divided into different parts by temporary fences, three sows and their litters being placed in each pen.

I arranged also that where two or three litters were born the same day the smallest litter be divided between the other sows. By doing this I was able to make 48 sows instead of 60 raise the pigs.

I also promised the man that every pig weaned over 240 would be 50 cents for himself. The consequence was that the man raised and weaned 310 pigs.

On one cold stormy night there were 52 pigs born. These the man carried in warm boxes into his kitchen, and when he phoned me in the morning he had been up all night and had saved 47.

I had the pleasure of paying him a bonus of $35.

The way to catch fish is to use good bait.

Many a bet I lose in haying by telling a crew that they can't get up a certain amount of hay in a given time.

In business, if a man has a loss he immediately sets about to retrieve it. In farming, the whole work of a year is often lost in a day.

If you plant poor seed it means a poor stand and a poor crop.

Get your help interested.

If you have a good stand of corn it would amaze you to walk over a row in a 40-acre field behind the cultivator, count the number of hills covered by careless work, and then figure out what it amounts to in a day for one team.

In many cases a careless man will in one day cover up and plow out as much corn as would pay his wages for a month. Get him interested financially.

It is strange in this day and age that in spite of all the literature that is written on farming the business end is so often overlooked.

Here a few men will join together in a business enterprise, putting in $200,000, and immediately begin looking out for a $10,000 man to run it. The same body of men might buy a piece of land for the same amount and fully expect to get a good foreman or manager for $70 a month.

They are loud in their denunciations because the farm does not pay, entirely overlooking the fact that in the first case they are hiring brains, in the second case labor, and that they have no right to expect in the second case anything but labor.

It is now conceded that the best results in business are obtained where labor is given a small proportion of the profits. It gives an impetus to the work, lifts labor to a higher level, and makes satisfied help, for it must be realized that a man to make good must feel good toward both his employer and his work. Business differs, however, from farming in that a business man matches his brains against another man's, whereas the farmer matches his against Nature, and there is no known system of farming that will make crops grow without moisture, heat, and fertility, nor any system whereby Nature will produce more abundantly unless assisted.

It is therefore clear that even the best farmers can and will through a bad season have a failure in crops, but it is not clear that there is any necessity for any of us losing out in other things that are more under our control.

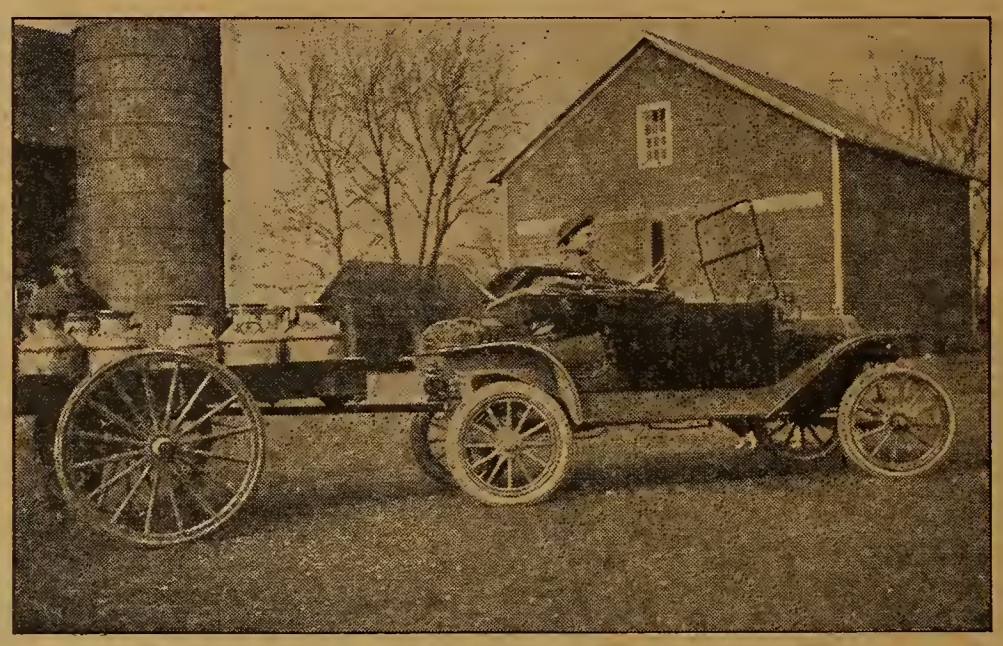
A WOOD SILO treated with creosote preservative will resist decay for at least twenty-five years. The preservative also lessens shrinking and swelling.

Speed in the Milk Route

By William Semmler

THIS Illinois farmer runs a dairy farm and has a milk route in a city six miles distant. By using a team he found it took him until noon to complete his route and return home.

So he purchased a second-hand runabout for $300. Securing a pair of cart wheels he made a trailer just the width of the auto, and securely fastened the trailer to the back of the auto. He can haul 18 cans of milk to the city, finish his route, and be back on his farm in time to do considerable work before dinner.



"I'll be back in an hour"

The time saved justifies the cost of the outfit. The auto trailer is also useful for hauling feed and many other light loads not exceeding 2,000 pounds.

EVER try artichokes for swine? A West Virginia reader says they are excellent for an early spring feed when grown in a lot into which the porkers can be turned to root for themselves. A great many men who want to reduce the expense of making pork would like to learn about them.

Competition from Asia

SAMPLES of butter from Siberia have been imported into California. Few Americans are aware of the immensity of the dairy industry in that vast region stretching from Russia to the Pacific, and from the Chinese Empire to the Arctic Ocean—a domain as large as three Canadas. This Siberian butter was pronounced about second class. Some of it sold on the eastern markets last year for 24 cents a pound. This was only about two thirds the price of domestic butter.

No great farm product of equal value can be shipped as far or as cheaply as butter. Once the supply for the city of New York came from the Mohawk Valley.

The opening up of western New York killed this industry. Then it shifted to Ohio, from which it was driven by the cheap lands of Illinois. Now the greatest butter-producing point in the United States is on the Missouri River.

Wherever good forage can be grown on cheap lands the butter industry thrives. It is never quite extinguished on the dear lands, as is shown by the conditions in Denmark and many American States; but the great bulk of butter production on a large scale tends to those regions in which transportation is the controlling factor, and where land, for that very reason, is low in price.

Siberia seems to be just that sort of place.

Old Jack's Shoulders

By E. L. Vincent

THE lump which came on Old Jack's left shoulder was no larger than a kernel of corn when we first noticed it, but it grew to be about the size and shape of a pecan nut. Then another swelling of the same kind began to appear near the first one, and they were right where the collar pressed hard on them all the time the horse was working. We put simple things on these bunches and fussed with them, but they did not go away. To make it easier for the horse, we cut a hole in an old collar so that the hard leather would not come in contact with the sore places. Finally we got a breast collar that did not touch the lumps at all; but none of these things did any good. The swellings hurt the old fellow, and we felt that something ought to be done. Old Jack was too valuable a horse to be put out of business in any such way as that.

So I took him to a "horse doctor" in the village near-by. He looked at Old Jack, felt of the bunches, and very wisely said:

"He's a dead horse. I wouldn't give a dollar for him."

Well, that made my hair stand up for a moment. Old Jack had been my friend and helper ever since we came on the farm. I have often said, and I believe it is true, that he was the most honest horse I ever saw. He would do anything or go anywhere I asked him to, and do it so kindly and patiently. And he had a fine sense of humor. The twinkle in his eye was worth more than a visit from the family physician to one of us who was under the weather. Old Jack a dead horse!

"What is the matter?" I asked, and I am not sure that my voice was very steady.

"Farcy!" came back the prompt answer, very wisely again. "Them is farcy buds. They'll come all over him, and then he's a goner."

Farcy? What in the world was that? I never heard of such a thing. But I drove sorrowfully home and looked it up in a book I had, and I made up my mind Old Jack had no more farcy than I had. Those bunches were both loose, not connected with the underlying tissue; you could take them between your fingers and move them around under the skin. He was not sick, only tender and sore. But what were the lumps?

It did not take me long to hitch up and drive away to the city and consult a real veterinarian. The minute he looked at them he said, "Yes, I can cure that all right."

He put a twist on Old Jack's nose. I held it, and the doctor made a slit over the top of each bunch, took a pair of tweezers, drew the lump up a little way, and cut round the thing and threw it away. That was all there was of the farcy buds! The lumps were little hard tumor-like things the cause of which I never really knew.

Old Jack and I went home happy. He lived a good many years and did good hard work. I have often wished the doctor that condemned him to an untimely death could have seen him some days after his "operation" when he would slip away from me with the harness on and take a "scooroop" down into the meadow across the road, kicking with both feet higher than the top of the woodshed and racing himself half to death. No use to try to catch him till he had had his run out. But when he had played long enough, back he would come as solemnly as a deacon to do his day's work.

If the "horse doctor" could have seen him then, I am sure he would not have valued my good old friend so lightly. Old Jack had a man's heart under a jacket of fur.

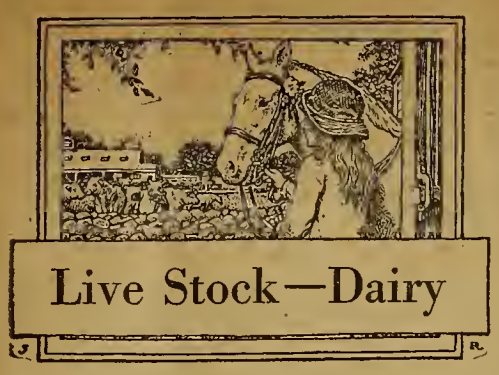
There's a great difference between a "horse doctor" and a real veterinarian.

Chestnuts for Sure

ONE of the purest breeds of live stock is the Suffolk horse. The Suffolk Horse Society of England has registered 12,497 chestnut horses.

All of these animals are from matings of chestnut horses, and there is no case on record (neither has extensive advertising revealed a case) where a pure chestnut Suffolk mare mated with a pure chestnut stallion has given any but chestnut offspring.

E



An Animal Reunion

THE live-stock prize list has been issued by the Panama-Pacific Exposition. Nearly half a million dollars will be distributed in premiums and special prizes. Besides the usual horse, cattle, sheep, swine, and poultry exhibits, the following live-stock attractions are offered:

A cat and dog show (separate exhibitions), sheep-dog trials, a goat exhibit, and a special class for pet stock, including rabbits, cavies, rats, and mice. For children there will be a separate pet contest which will be judged not for utility value of the entries but for their value as pets. This list includes such creatures as parrots, chipmunks, snakes, frogs, turtles, and goldfish.

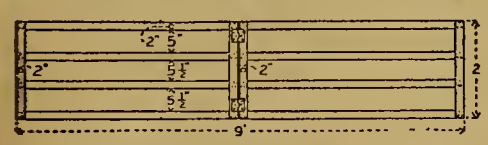
There are also live-stock classes for grades and crosses derived from various breeds of farm animals.

The competitions are open to the world, and will be judged at specified dates between September 1st and December 4th, when the Exposition closes.

Hog-Catching Hurdle

TO CORNER, catch, or sort hogs quickly, use the hinged hurdle shown in the sketch. You stand in back of the center of it and hold it by the top strips, one hand on each side.

It may seem a little clumsy at first, but that is one of its many advantages,



for it retards quick movements and even a hot-tempered man is less likely to excite the hog he is trying to catch than if he used a club or whip. This hurdle is endorsed by J. G. Fuller of the Wisconsin Station.

A Scientific Mudhole

THE chief recommendation of hog wallows is the fact that hogs like them. Here is a plan of hog wallow that has been tried and endorsed as combining the good offices of a dipping tank and a genuine old-fashioned hog-made mud wallow. It is just a bowl-shaped concrete basin two feet deep in the center. Nine feet in diameter is a good size, but you can make it as large or small as you want. Build it near a side hill and provide a drain pipe as illustrated, setting it a little to one side of the wallow and six inches above the bottom. This will keep it from being covered with mud. If too much mud accumulates, drain the water from the wallow and shovel out the mud.

In planning the location of this wallow, consider the water supply, for although the water will not soak through the concrete as it would into the ground, still you will lose water by evaporation.

Finally add one gallon of crude oil to every barrel of water used in filling it. The oil mixture kills the lice and keeps the wallow from being a pesthole. Or you can use any standard dipping solution.

The Ox-Warble Puzzle

HOW does the ox-warble get beneath the skin on the backs of cattle?

This question was asked the noted entomologist, L. M. Peairs of the West Virginia Experiment Station.

"The life history of the ox-warble is very interesting and puzzling," he replied. "As yet it is mostly speculation. What is known is this: The eggs are laid on the feet and legs of cattle, are licked off, and hatch inside the animal and live until late fall, when they are about a half-inch long.

"This is known definitely. The explanation of how they get up under the skin along the cattle's backs is that they force their way through between the muscles. This, from what we know of the habits of fly larvæ, does not seem impossible, the blow-fly larva, for instance, being often found forcing itself through cracks where you could scarcely force a thin piece of paper. We know also that there is no other way by which bots could get from the mouth to the back, as they have no means by which to crawl up a surface like the side of an animal.

"The missing link in this explanation is the fact that, so far as I know, no one has yet found the bots actually in the tissues between the mouth and skin of the back. I can readily see how even this explanation may be doubted by the farmer, and I shall be very glad to learn of a better explanation backed by real observation of all the stages of the insect."

From Work to Milk

CATTLE used to be bred chiefly for work. Therefore the cows did not give much milk. Breeds improve the thing for which they are selected.

If cows were used for step-ladders we should by this time have them seven feet high.

In 1790 the work cows of Germany gave an average of a pint and a half a day. Interest in milk increased, and by 1800 the average yield was a quart and a half. Breeding went on milkward, and in 1810 the German cows averaged two quarts of milk each per day. In 1820 three, in 1830 four—and there the gain stopped for thirty years. But in 1860 the production had increased to six quarts, and by 1870 to eight.

The breeders of the trotting horse found it tremendously hard to make their steeds go any faster after the 2:10 mark was reached, and it took years and years to get below two minutes—and at about the two-minute mark in all probability the record will always stand. So with the milch cows, as the yield increased it grew more difficult to breed record breakers, or to better the average; but now Doctor Wilsdorf states, the average daily yield of all German cows is ten quarts.

A thousand per cent gain in a century and a quarter; that is what long-period breeding will do. It is such work as this which alone will keep the world big enough for its increasing numbers of people.

High Lights in Live Stock

GOVERNMENT statistics are staggering in volume but highly interesting just the same. For instance:

On January 1, 1915, people were five times as numerous in the United States as horses; and horses were five times as numerous as mules. Texas had over twice as many mules (753,000) as Missouri, its closest competitor. Texas also led in cattle (5,121,000), having nearly twice as many as Iowa. Iowa had twice as many swine (8,720,000) as Illinois, its closest competitor.

Montana and Wyoming are the two greatest sheep States, each having about 4,400,000 head. New Mexico and Ohio come next with about 3,300,000 apiece.

Rhode Island has 23,000 milch cows, and Nevada 24,000. Wisconsin has the most—1,626,000.

Butter to Sell

By E. L. Vincent

AS THE great body of farmers more and more take up the production and sale of milk to be shipped out of the country, there will be an ever-widening opportunity for those who prefer to do that kind of work, and are competent to do it, to make butter for sale in town and even right around among their neighbors.

There are some parts of the country which dispose of nearly all their milk to the condensaries or else sell it for shipment to the large business and residence sections. This of course makes it practically impossible for any farmer who follows this method of marketing his milk to make or secure butter enough for his own home use. It is a serious handicap sometimes, and prevents the use of dairy butter in great measure, forcing people to use imitations of butter, much as they dislike to do so.

A young farmer friend of mine is just now making a good thing of it, producing choice dairy butter, putting it up in prints or jars as desired by his customers. Still another man I have in mind has been getting 40 cents a pound for his butter for a long time, this being considerably above the market price.

A few things need all the time to be in the mind of the man who sets out to do a business of this kind. First, the necessary up-to-date equipment; second, the ability to make good butter; third, absolute cleanliness at every step; fourth, good butter cows; and fifth, cold water for washing and otherwise caring for butter.

SEEING the Difference BETWEEN DE LAVAL AND OTHER Cream Separators

IT DOESN'T TAKE AN EXPERT knowledge of mechanics or a long working test to tell the difference between the De Laval and other cream separators.

ON THE CONTRARY, WITH A 1915 De Laval machine placed beside any other separator the difference is apparent at first sight to the man who never saw a cream separator before.

IF HE WILL THEN TAKE FIVE MINutes to compare the separating bowl construction; the size, material and finish of the working parts, particularly those subject to wear and requiring to be occasionally taken apart and put together; the manner of oiling, and everything which enters into the design and construction of a separator as a simple durable machine, he will still further *see the difference.*

IF HE WILL GO A STEP FARTHER and turn the cranks of the two machines side by side for half an hour, particularly running milk or water through the bowl, he will see still more difference.

AND IF HE WILL TAKE THE TWO machines home, as every De Laval agent will be glad to have him do, and run them side by side in practical use, the De Laval one day and the other machine the next, for a couple of weeks, he will see still greater difference in everything that enters into cream separator practicability and usefulness.

THE MAN WHO TAKES EVEN THE first step indicated in seeing for himself the difference between the De Laval and other cream separators doesn't put his money into any other machine one time in a thousand.

THE COMPARATIVELY FEW BUYERS of other separators are those who merely read printed matter claims or listen to the argument of some dealer working for a commission, and who do not think it worth while to *see the difference* for themselves.

THE WISE BUYER OF A CREAM separator today does see this difference when buying his *first* separator, while the unwise or careless one usually finds it worth while to do so when he comes to buy a *second* cream separator a year or two later.

EVERY DE LAVAL AGENT CONsiders it a privilege to show the difference between the De Laval and other separators, and to afford every prospective buyer the opportunity to try out and prove the difference to his own satisfaction, if on first examination he feels the slightest doubt about it.

THAT'S THE REASON WHY FOUR buyers out of five are buying De Laval Cream Separators in 1915, and why the use of De Laval machines will, before long, be nearly as universal on the farm as already is the creamery and milk plant use of power or factory separators.

The De Laval Separator Co., 165 Broadway, New York 29 E. Madison St., Chicago

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

I've Solved the Milking Problem

for thousands of farmers. And I've got the cost down so low that I can give you a perfect, economical milker at a price that will astonish you. You can milk in the most sanitary way and save time, money and work with a

HINMAN MILKER

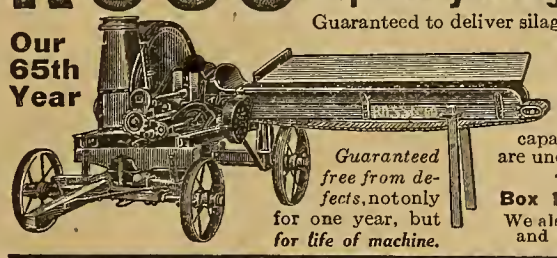
Sit right down and write today for my Free Illustrated Book. I want you to know all about what I have spent years in developing for your benefit. Simply say in a letter or on a postal: "Send your FREE BOOK telling how to make more money with cows"

R. L. Hinman, HINMAN MILKING MACHINE COMPANY
68-78 Elizabeth Street ONEIDA, N. Y.

ROSS SILO FILLING MACHINERY

Especially Designed for Gas Engine Power

Our 65th Year



Guaranteed to deliver silage into the silo at 50% less speed and 30% less power than ordinarily required.

Cuts the silage in uniform lengths, which insures the Best of Feed. Silage packs closer, which permits of more tonnage into the silo. For strength, durability, capacity and easy-to-feed—Ross Machines are unexcelled. Write for catalog.

Guaranteed free from defects, not only for one year, but *for life of machine.*

THE E. W. ROSS CO.
Box 119 Springfield, Ohio

We also manufacture the Ross Wood and IN-DE-STR-UCT-O Metal Silo.

ROSS

Bruised Knee, Bog Spavin, Thoroughpin, Wind Puff

AND SIMILAR BLEMISHES ARE QUICKLY REDUCED WITH

ABSORBINE

It is powerfully penetrating, soothing, cooling and healing—strengthens and invigorates tired, lame muscles and tendons; stops lameness and allays pain; takes out soreness and inflammation; reduces swellings and soft bunches. It is mild in its action and pleasant to use.

ABSORBINE does not blister or remove the hair and horse can be used.

USE ABSORBINE to reduce Bursal Enlargements, Bog Spavins, Thoroughpins, Puffs, Shoe Boils, Capped Hocks, Swollen Glands, Infiltrated Parts, Thickened Tissues, Rheumatic Deposits, Enlarged Veins, Painful Swellings and Affections; to reduce any strain or lameness; to repair strained, ruptured tendons, ligaments or muscles; to strengthen any part that needs it.

SEND FOR FREE HORSE BOOK E

Your druggist can supply you with ABSORBINE, or I will send you a bottle postpaid for $2.00. Write me, if you have a case requiring special directions or about which you would like information.

W. F. YOUNG, P. D. F. - 23 Temple St., Springfield, Mass.

How One Man Does the Work of Three

In the June 5th issue of *Farm and Fireside* will appear the first of a series of articles on the advantages of up-to-date farm machinery. The first article will deal with Hay Machinery, and explains how the drudgery of haymaking has been much relieved through the inventive genius of the manufacturer of farm machinery. The day of the scythe and the hand rake passed many years ago. But it would appear that much more of the heavy work of haying could be relieved by a few dollars invested in additional equipment of the proper kind.

Among other things, the writer points out how a young man single handed put up 82 loads of hay last year during a season of nine days, a feat that would formerly have taken the combined efforts of at least two men and a boy. You will want to read this article. It may save you time, money and perhaps a valuable hay crop. This series of articles which will begin in the June 5th issue of *Farm and Fireside* will go only to paid-in-advance subscribers.

The United States Annually Loses 900,000 Acres of Land

Briefly the above statement tells the story of the tremendous loss suffered by the farmers each year as a result of soil-washing. As a rule, it is the upper and most productive soil that is affected. Almost every farm in the country sustains a portion of this loss, much of which can be prevented by the proper precaution. Some of this soil comes from your farm. How about that gully over in the cornfield, or that ditch that cuts down through your field of oats? A. F. Gustafson tells about this tremendous loss and gives you several methods of preventing it in a June issue of *Farm and Fireside*, The National Farm Paper, and you can hardly afford to miss it.

Other Vital Topics

Farmer's Co-operative Movement Co-operation in buying and selling is interesting the farmer to-day more than it ever has before, and an early issue of *Farm and Fireside* will contain information of the work that two Co-operative Associations are doing—one in Oregon and the other in Missouri, both of which contain a lesson for the farmers of every State in the Union.

How Dixie is Competing With the Corn Belt is the title of an extremely interesting article on cattle-raising, telling about the problems of the Southern stock raiser and how he is meeting them and winning out in competition with the cattle raisers of the North and Central West.

A Two-Dollar Bill **Something About July 4th** This is the title of an absorbing story that will appear in the June 19th issue of *Farm and Fireside*. It is complete in one issue, and contains several thrills as well as some common sense. There will be good fiction in every number of *Farm and Fireside*. Also a poultry story of unusual interest—the story of a real flock of Plymouth Rocks and their record under the care of our Poultry Editor, besides recipes for the housewife, fancy work for the girls and Sunday reading for everybody.

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FARM AND FIRESIDE

Springfield, Ohio

To Make Woodlots Pay

Grazing Injures Seedlings and Tree Roots

By EDMUND SECREST

"I CAN'T see where I am getting very much out of my woodlot," said a friend to me the other day. "In fact," he continued, "I believe very few of us farmers are getting returns for the lands we have covered with trees."

It is unfortunate that so many woodlots are not profitable. Conditions are about the same in most States, but I am best acquainted with them in Ohio, where I am state forester.

Eighty per cent of these woodlots are grazed, and are almost useless for timber-growing.

Fifty per cent are beyond hope, with only scattering, culled trees and no young trees for the future stand.

Spreading beech, maple, oak, and other trees interfere seriously with the pasture value, and the woodland pasture is poor as a grazing ground.

Good for neither the one thing nor the other, these thousands of acres are really waste lands, bearing taxes but yielding practically nothing.

Many of these should be cut off and a new start made by planting, if a woodlot is wanted. But in many cases the forest may be profitably restored by natural seeding or planting.

In most such cases I advise the owners to apply to their state forestry department for advice.

Live stock is the greatest enemy to the woodlot. Before beginning to practice forestry it is absolutely necessary to shut out the live stock, and keep it out.

Live stock destroys seedling trees by browsing. It also destroys natural forest conditions, essential to the growth of trees.

Constant trampling injures tree roots, and puddles the soil. Undergrowth which keeps up moisture and leaf mulch is killed. A heavy sod saps the moisture, and the older trees become "dry-topped" and die.

Make a careful survey of the woodlot to see which is the better portion of it for timber. Put this part in a woodlot, and pasture the rest.

The pasture area can be improved by removing some of the trees so it can grow better grass.

First, cut out the dead or dying trees from the woodlot. The sale of the timber will often pay for the improvement work and sometimes yield a profit.

Cut out the "weed" or "robber" trees if necessary. These are trees of worthless growth which overtop good trees. Such species as ironwood, dogwood, blue beech, and sour gum oftentimes fill up open spaces and keep out good timber.

Do not cut out the undergrowth unless it shades young seedlings, and then only enough to free the young trees from shade.

Young trees often stand too close together. Such need thinning, but thinning with care.

First cut out the worthless or inferior trees, then the poorer and weaker trees of the better species if the stand is still too thick. The crowns must not be interlocked or crowded. The first thinning should leave only a foot or so between crowns, or grass will come in underneath and forest conditions be destroyed.

It is better to thin too little than too much, or in fact not at all than too much. A light thinning every few years will bring the best results.

Very little, if any, thinning of the native hard woods should be done, as a rule, for the first fifteen or twenty years. The object is to get good timber in the shortest possible time. To get trees free from knots they must be crowded in youth so as to grow rapidly in height, with slender trunks free from side branches.

Do not cut trees when too small. The waste in cutting may vary from eighty per cent in a tree eight inches in diameter and seventy-five feet high, to six per cent in a tree forty inches in diameter and one hundred feet high.

The cutting of railroad ties is usually wasteful. Many cut thrifty-growing oak or chestnut when the butt is large enough to make a tie. The remainder rots in the woods.

Such trees are just ready to grow into timber. It will be only a few years until they will make four to six ties instead of one.

I presume my friend was not far wrong in thinking he had been losing money on his woodlot. He had not, to my knowledge, made a very careful study of the situation. And I know from my every-day work with trees that they can lose money as well as make money. I am interested only in profitable timber.

The woodlot is becoming more and more the business of the "long-time" farmer, the man with foresight.

In Europe, forestry has been practiced for centuries. Every landowner knows as much about handling his woodlot as he does about his other crops. Every private forest large enough, usually employs a trained forester also. The American owner may ask for assistance from men hired by the State to study the problem. Usually there are no charges for the assistance given, except transportation from the nearest railroad station. Some of the States will furnish a man to superintend the work, if it is extensive, free of charge, except for the expenses of travel and subsistence. Forestry nurseries and experiment stations throughout the country are now selling nursery stock of forest trees at reasonable rates.

I am anxious that there be more woodlots in our country.

I am anxious that they be profitable, and I know they can be.

Because of the newness of this kind of farming in America, I am every day urging the necessity of a thorough study of all features of the business. I believe it will win.

The result of pasturing live stock in a sugar-maple grove

WHAT has become of the farm mill for making sorghum molasses? Let's hear from readers who are still at the business; and those who have been in it and quit might tell us why.

MANY grape growers have been troubled with what is called "dead arm" in the vines. It has now been discovered that this is a fungous disease. The remedy is to mark the diseased vines when the yellow leaves in early summer show the trouble, and saw off all diseased wood.

AN IOWA man says he'd rather have Canada thistles any time than quack grass or morning glories. He plants corn on the thistle-infested ground, tends the corn with a surface cultivator, pulls the thistles by hand in August, and then cuts them off below the top of the ground every week afterward. This got rid of them for him in one season.

E

Getting Orchard Profits

By Wm. Semmler

WHAT proportion of the farm orchards the country over are realizing a profit to the owner? It is safe to say not one farm orchard in ten is paying its way except in some favorable fruit region where orcharding is the principal line of work.

After buying and planting, then cultivating and fertilizing the trees up to bearing age, the owners are losing what has been invested. They have come to believe the job of saving the fruit from disease and pests costs more than the income they can derive from the trees.

Lewis Scott, who has "book-farming" knowledge and practical farm experience as well, after observing some unprofitable Indiana orchards, concluded he could make such orchards furnish him a profit and do the owners of the orchards some good at the same time. In pursuance of this idea he interviewed the local dealers and farmers who were buying their apples in north central Indiana, and found them willing to buy home-grown fruit instead of that shipped in from Michigan, New York, and other points, providing the home-grown article would be equal in size and quality to the fruit they had been getting.

He then looked over a number of orchards in his home locality and made five-year leases with the farmers for their orchards, paying from 25 to 50 cents a tree, according to what fruit he thought the trees could be made to produce.

His first move was to prune and renovate the trees in the leased orchards. In the proper season he started his spraying campaign, using the various spray solutions required to overcome the diseases and pests which had been in full control of the trees for years.

Some of the orchard owners, at this stage of the game, were considerably disturbed at the heroic treatment the trees were receiving; but since the trees had not been bringing them profit, they allowed Mr. Scott to have his own way.

The first harvest after the trees were treated did not yield very much fruit, but the succeeding years showed the effects of the pruning and spraying.

So well did Mr. Scott succeed with the first few orchards leased, that he enlarged his operations to ten orchards.

He has now engaged a number of agricultural college students to assist him in caring for the orchards, and has taken up similar work in Illinois. Two of the last orchards leased in Illinois have a combined acreage of 18 acres.

Now that the Indiana orchards require less care and attention, these are left in the hands of some of his helpers, and Mr. Scott and two other orchard experts are camping on the job in Illinois, where they will remain during the summer and up to harvest time.

Mr. Scott has found no difficulty in marketing the apples from these leased orchards at prices that return him a good profit. His intention now is to lease other orchards as fast as he can give them proper attention.

Three Apple Trees

By C. G. Woodbury

AN OHIO subscriber having three large apple trees which have never been properly cared for upon his recently purchased farm wishes to know how they can be put into healthy condition. When he bought the farm the apples were wormy, the trees hollow, and many suckers growing on the main limbs. The trees were so high that spraying was impracticable, so he cut the tops down to 15 feet high, leaving the suckers on, though trimming them down some. The tree cavities were filled with cement. The trees made excellent growth last year, but were damaged some with gray lice which were kept in check by kerosene-emulsion spray. Now a new difficulty arises, for the bark on the main trunks is getting loose and coming off in places, and underneath the loose bark are worms and insects.

The treatment up to date seems to have been very good. I would suggest, however, that in the future "Black Leaf 40" or nicotine sulphate instead of kerosene emulsion be used for the lice on the trees. This material can be used in connection with the dilute lime-sulphur which controls a number of fungous diseases, and in connection also with arsenate of lead for codling moth and curculio. The nicotine preparations need only to be diluted with water or with the other spray material mentioned to be ready to use.

It is not quite clear to me whether the bark is peeling and leaving the sapwood exposed, or whether it is simply the rough scales which come off from the old bark. If the bark is separating from the wood the difficulty is very serious. It might be caused by winter injury, by fire blight, canker, or crown rot. All the loose bark should be taken off and a clean fresh cut made all about the edge of the wound, trimming the bark back to where it is alive and healthy. The exposed wood should then be thoroughly cleaned and covered with a disinfectant preparation. Probably asphaltum is as good as anything for this.

If the bark is not coming loose from the wood, and is simply coming off in thin scales, the thing to do is to scrape the bodies of the trees with an old short-handled hoe or a tree scraper, and then spray them with lime-sulphur solution at a strength of 5° Baumé. Lime-sulphur solution at this strength is too caustic to be applied to the foliage or to spray the tree as a whole, but will not injure the bark on the trunks. It is a good disinfectant and will kill insect eggs and San José scale, and will be much preferable to whitewash.

How I Fight Borers

By James B. Morman

SOME years the Hubbard squash vine is badly injured by the squash borer. The moth lays her eggs on the outside of the vine, and in a few days the eggs hatch into small grubs. These immediately bore their way into the stalk where they live unseen and for a time unsuspected.

For a while the vines grow well; then, as the borer continues feeding on the inside of the stalk, the vine withers and dies. Whole patches of squash may be destroyed by these borers in a few days.

In 1914 I made tests of early and late planting. The early plantings were begun in April and continued into May.

Sweet corn was used as a companion crop, with the early plantings to furnish shade for the squash vines, but every vine except one was destroyed by the borers in all the early plantings.

I made late plantings of seed from June 1st to July 20th, which was the last planting of the season.

In order to hasten the development of the plants as an offset to late planting, separate hills were prepared. Holes were dug from 8 to 10 inches deep, which were filled with rich soil thoroughly mixed with chicken manure, but I left saucer-like depressions as an aid to watering the plants in dry weather. This plan proved very serviceable, as no rain fell during six weeks of midsummer. The plants had to be watered frequently to keep them vigorous.

Notwithstanding the drawbacks of late planting and a dry season, this crop of Hubbards was among the best I have ever raised. Hardly a vine was attacked by the borers.

The period of squash-moth flying was over before the plants were above ground.

The Home Strawberry

By Leroy Calhoun

TWO years ago we bought 32 plants of the Superb everbearing strawberry. They grew in our New York garden and prospered. Last spring we often picked three or four quarts at a time from this patch, although we had taken out a lot of "runner" plants to reset.

The fruit is delicious. It has a flavor resembling that of the wild strawberry.

We have several varieties of standard spring berries which we consider fine, yet we always save out Superb for our own table.

The runners began to blossom as soon as they had a few leaves started, and in the fall we often found ripe berries on runners not yet firmly rooted in the ground.

We set out a row about five rods long last spring, picked off the buds until they got rooted, and then let them go.

We picked two or three quarts of berries a week from this row through August, September, and the fore part of October; then it grew cooler and ripening was slower, still there were clusters of blossoms sent out.

The 7th of November we picked a sauce-dishful of ripe berries, but these lacked the flavor of the earlier berries.

I think there might be no great profit in growing them for market, as the expense would be greater, the season being so much longer and the pickings comparatively smaller than with the spring bearing sorts.

They come at a time, too, when fruits of other kinds are most plentiful and the general demand might not be great.

But for the home garden they are fine, and one can have fresh strawberries and cream from June until November.

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FARM AND FIRESIDE, Springfield, Ohio

Athletes Desire to Farm

Major-League Baseball Players Buy Land With Their Savings

By HUGH S. FULLERTON

MANY of the players who are getting large salaries in the major baseball leagues are buying farms with their savings. A number of these men were born and reared on farms. More ball players are going into farming in proportion to their number than any other class of persons.

A dozen years ago the major-league players who "wore out" or quit the game bought either a saloon or a billiard hall. The best years of their lives had been given to baseball, and they realized they did not have left to them the years in which to build up a standard business.

Farm land as an investment attracts the baseball players because they can combine farming with ball-playing during their active years on the diamond, and after years spent in crowds, hotels, and trains they long for the peace and quiet that may be enjoyed on the farm.

The discussion of farm practices, land values, fruit-raising, and stock-feeding many times crowds out the incessant baseball talk during a daylight trip of a ball team during the ball season.

Perhaps the largest landowner among the major-league baseball players is Fred Clarke, manager of the Pittsburgh Pirates. He began investing his savings in farm land in Kansas during his early years in baseball, and now owns one of the well-equipped ranches in the Sunflower State. Manager Clarke also owns land in Idaho. He manages his Kansas ranch, and devotes much of his time to the raising and feeding of live stock.

Charlie Herzog plans to farm in Maryland when his baseball career ends

Photo by Burke and Atwell

"Farming," said Clarke recently, "is the ideal life for a ball player. I never worry about the condition of a player on my team if I know he is spending the winter at work on a farm. I encourage the young fellows to buy farm lands. The player who works on his own land during the winter lasts much longer in baseball than does the fellow who winters in a city.

Players Enjoy Country Life

"I find the combination a perfect one. When a season ends I go to the ranch and spend the winter in hard work, planning for the next summer, shaping things up so that I can leave the ranch in the spring for my employees to run. I have made money out of the ranch, and always am certain of a place to retire when I'm done with baseball. It works both ways. The fellow in baseball desires to know where he is going to land when he gets through. He can use five months of valuable time in farm-development work or in learning farming every winter instead of wasting them, and every winter adds to the value of the place. I can hardly wait for the baseball season to end to get back to the farm."

Using the winters in development work on a farm attracts many players back to the land. The greater number invested in lands in the milder climates with the idea that their winter work would accomplish better results. This led to specialization in crops that need the most work during the winter months.

Frank Chance, Peerless Leader of the Chicago Cubs, received his early agricultural training in the raisin and fruit district near Fresno, California. After he accumulated money in baseball, he invested heavily in orange groves in southern California. Chance chose Glendora, in the San Gabriel Valley. He now owns one of the best 42-acre groves in the district. His bungalow at "Cub Ranch" is one of the show places in the valley.

Ora Overall, the Giant pitcher, also is a California rancher, owning land near Visalia, to which he expects to retire.

A large number of players have invested in Florida, California, Oregon, and the Gulf coast of Texas, thinking to spend their winters at hard work in mild climates. Their experiences have not been wholly satisfactory. Even those who have had farm training, and who know farming in the more northerly or easterly sections, discovered that they were learning a new game. Difference of soils and methods of handling fruit and fruit trees occupied their winters.

Fielder Jones, the famous manager of the Chicago White Sox, persuaded many players to invest in Oregon, Washington, Idaho, and Colorado orchards. Jones has had much experience in orchards in the Northwest, and in timber. He has made a success of his orchards. "Billy" Sullivan, the great little catcher, and others invested under Jones's advice and have done well.

Chick Fraser, one of the greatest of the old pitchers, first invested in a chicken ranch in Illinois. He found the ranch interfered with his baseball activities, as the chickens required too much of his time in summer. Later he purchased a ranch in the Snake River Valley in Idaho. He purchased the raw land and spent his winters clearing off the timber, grubbing out the stumps, and planting the orchards. When his orchards are in full bearing Fraser plans to retire from his baseball activities.

Fruit Farms Are Popular

Frank Schulte, the veteran outfielder of the Chicago Cubs, had experience as a boy on a New York fruit farm. After years of travel he determined to apply his knowledge and his savings to something in which he had experience. He purchased a large tract of land near Woodbury, Georgia, and set out a peach orchard. His Mountain Side Fruit Farm has been developed into one of the best in the Georgia peach belt. This year he will ship about twenty cars of fruit. He spends his winters attending to the trees. Schulte believes the conditioning due to outdoor work adds to his baseball career. He feels he is in better condition than he was five years ago.

Ty Cobb has a peach ranch in Georgia, and his rival for batting honors, "Joe" Jackson of Cleveland, has a place in the South Carolina mountains. He is a "bug" on corn culture.

Charlie Herzog, manager of the Cincinnati Reds, takes an active interest in farming, and is in charge of the family place, Alpha Manor, at Ridgely, Maryland, to which he expects to retire as a farmer when his baseball career ends.

Jack Pfiester, perhaps the greatest of the left-handed pitchers, went in for farming while he was pitching for the World's Champion Cubs. He purchased a place near Remington, Ohio, not far from his birthplace, and retired to it while still in form to pitch. He writes he is prosperous and happy.

J. Frank Baker, the famous "Home Run Hero" of the Philadelphia Athletics, recently caused a sensation by retiring from baseball to operate his farm near Trappe, Maryland. The longing for the farm has been uppermost with him for years.

Artie Phelan has entered the grapefruit business in Florida. Del Howard became enamored of the Rogue River Valley and deserted Kenney, Illinois, for an apple and pear ranch near Jacksonville, Oregon. Other ball players have entered new agricultural fields, but I find the greater number now believe themselves better off working and developing land with which they are familiar. George Mullin, Detroit's famous old pitcher, has a place near Wawasee, Indiana, and another near Wabash, his home.

Others Raise Staple Crops

Cy Young, after twenty-two years of record-breaking pitching, added to his acres not far from Cleveland, and shows as much speed in corn and vineyards as he did on the field. Carl Lundgren, who helped pitch Chicago into four pennants, has a magnificent farm at Marengo, Ill.

George Stallings, the "Miracle Man" of the Boston Braves, owns a tremendous cotton plantation near Macon, Georgia. He would rather talk of cotton culture and the boll weevil than of baseball. Part of the plantation was the Stallings family place, which he redeemed by his baseball earnings. "Ducky" Holmes, who has played ball and managed several teams, has a big farm near Lincoln, Nebraska, a place in Iowa, and a ranch in Dakota.

Walter Johnson, Washington's wonderful pitcher, had training on farms as a boy, and chose farming as his profession.

Jimmy Slagle has a buckwheat farm in Pennsylvania, with a mill on it. Jack Coombs, Larry Gardiner, Pat Moran, manager of the Phillies, Walter Wood, the veteran pitcher who finished as a catcher, Harry Lord, George La Chance, Freddie Parent, and several others are landowners in New England. Clark Griffith, manager of the Washington team, has invested much of his savings in Montana. He and his brother own a big ranch near Missoula.

"Ginger" Beaumont retired to a farm near Beloit, Wisconsin. Vic Saier, "Red" Killifer, and Sam Crawford own land in Michigan, and do active farm work. Sam Leever has a farm near Goshen, Ohio. Ward Miller farms in Illinois. Tommy Leach rears hogs at Bellevue, Pennsylvania. Ham Hyatt is one of the new North Carolina corn raisers, and Clyde Milan is buying farm land near Bristol, Tennessee. The Pfeffer boys are Illinois farmers. Larry Wheat of Brooklyn is a Texas rancher. Big Fred Toney's ambition is to return to the family farm in Tennessee. George Pierce is saving to add another farm to the home place, on which he works in winter. Bill Burns prefers his Texas ranch to the game.

There are a score of others who are combining baseball-playing with the operation or development of farms. The two occupations fit together well, and the majority of the player-farmers are making good.

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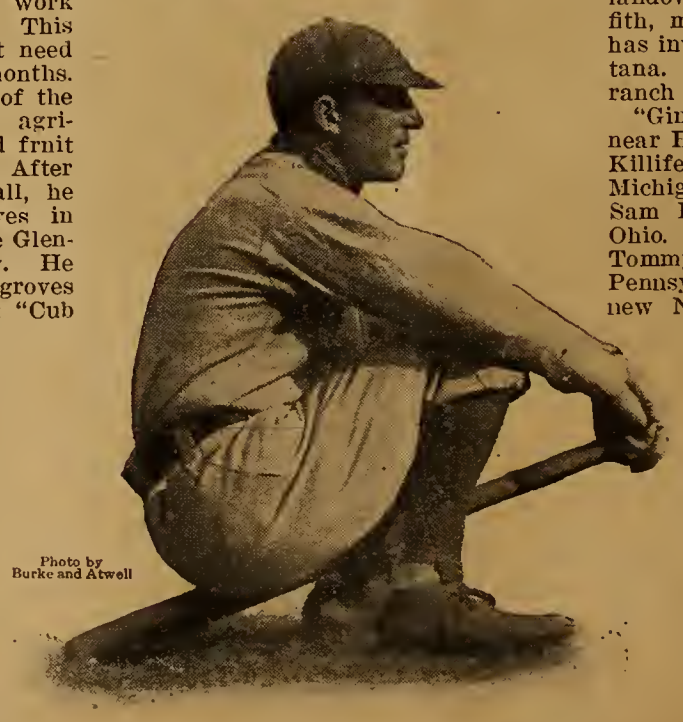

Photo by Burke and Atwell

A large well-equipped ranch in Kansas was bought by Fred Clarke with his savings

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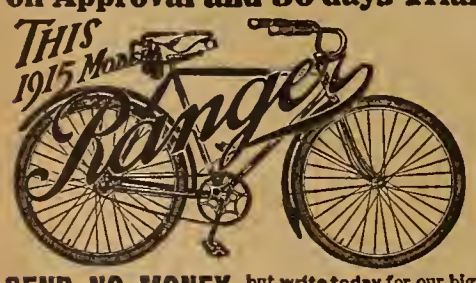

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The Brown Mouse

The Romance of a Farm Hand Who Upset a School District

By HERBERT QUICK

Part Fifteen

JIM IRWIN: Called the Brown Mouse because, born of a vagabond father and a quiet little mother, he becomes an original thinker and passes from the calling of a field hand to that of district-school teacher. He makes his school a laboratory for farm problems, and is threatened with removal by the insulted community crying for "culture." But his fame travels to Ames and elsewhere. He is honored and offered other positions, whereupon his own district awakens to his worth and gives him a consolidated school.

JENNIE WOODRUFF: The daughter of Jim's old employer, with whom he has enjoyed some sentimental passages before the opening of the story. She becomes county superintendent, and is disgusted with Jim's methods until she sees honors heaped upon him outside of the district. She then decides there is "something *to* Jim," and that she has been a blind little goose.

THE SIMMS FAMILY: Southerners who were shiftless and despised till Jim showed them the way to succeed.

COLONEL AND MRS. WOODRUFF: Jennie's father and mother. Stanch supporters of Jim, even when Jennie deserted him. The Colonel becomes one of Jim's best friends.

MRS. HAAKON PETERSON: A converted enemy.

DOCTOR BRATHWAYT: A Southern educator.

HANS NILSEN, JOHNNY BONNER, CALISTA SIMMS, ANGIE TALCOTT — Jim's devoted pupils.

XXXVI

Jim Scores Again

THE pupils took their seats, straightened their books and papers, and were at attention. Doctor Brathwayt nodded approvingly as if at the answer to some question in his mind.

"Children," said Mr. Irwin, "you may or may not be interested in what these gentlemen are about to do, but I hope you are. Those who wish may be members of Mr. Bronson's meeting. Those who prefer not to do so may take up their regular work."

"Gentlemen," said Mr. Bronson to the remains of Mr. Carmichael's creamery party, "we've been cutting bait in this neighborhood about long enough. I'm in favor of fishing now. It would have been the biggest disgrace ever put on this district to have been swindled by that sharper when the man that could have set us right on the subject was right here working for us, and we never let him have a chance. And yet that's what we pretty near did. How many here favor building a co-operative creamery if we can get in the farmers with cows enough to make it profitable and the equipment at the right price?"

Each man held up a hand.

"Here's one of our best farmers not voting," said Mr. Bronson, indicating Raymond Simms. "How about you, Raymond?"

"Ah reckon Paw'll come in," said Raymond blushingly.

"He will if you say so," said Mr. Bronson.

Raymond's hand went up amid a ripple of applause from the pupils, who seemed glad to have a voter in their ranks.

"Unanimous!" said Mr. Bronson. "It is a vote! Now I'd like to hear a motion to perfect a permanent organization to build a creamery."

"I think we ought to have a secretary first," said Mr. Talcott, "and I nominate Mr. James E. Irwin for the post."

"Quite correct," said Mr. Bronson. "Thankee, A. B. I was about to forgit the secretary. Any other nominations? No 'bjections, Mr. Irwin will be declared unanimously elected. Mr. Irwin's elected. Mr. Irwin, will you please assume the duties?" Jim sat down at the desk and began making notes.

"I think we ought to call this the Anti-Carmichael Protective Association," said Columbus Brown, but Mr. Bronson interrupted him rather frowningly. "All in good time, Clumb," said he, "but this is serious work." So admonished, the meeting appointed committees, fixed upon a time for a future meeting, threw a collection of half dollars on the desk to start a petty cash fund, made the usual joke about putting the secretary under bond, adjourned, and dispersed.

"It's a go this time!" said Newton to Jim.

"I think so," said Jim, "with those men interested. Well, our study of creameries has given us a great deal of language work, a good deal of arithmetic, some geography, and finally saved the people from a swindle. Rather good work, Raymond!"

"My mother has a delayed luncheon ready for the party," said Jennie to Jim. "Please come with us—please!"

But Jim demurred. Getting off at this time of day was really out of the question if he was to be ready to show the real work of the school in the afternoon session.

"This has been rather extraordinary," said Jim, "but I am very glad you were here. It shows the utility of the right sort of work in letter-writing, language, geography, and arithmetic—in learning things about farming."

"It certainly does," said Mr. Brathwayt. "I wouldn't have missed it under any consideration; but I'm sorry for that creamery shark and his accomplice—to be routed by the fifth-reader grade in farming!"

EW

The luncheon was rather a wonderful affair, and its success was unqualified after everybody discovered that the majority of those in attendance felt much more at home when calling it dinner. Colonel Woodruff had fought against the regiment of the father of Professor Gray of Georgia in at least one engagement, and tentative plans were laid for the meeting of the two old veterans "some winter in the future."

"What d'ye think of our school?" asked the Colonel.

"Well," said Professor Gray, "it's not fair to judge, Colonel, on what must have been rather an extraordinary moment in the school's history. I take it that you don't put on a representation of 'The Knave Unmasked' every morning."

"It was more like a caucus than I've ever seen it, Daddy," said Jennie Woodruff, "and less like a school."

"Don't you think," said Doctor Brathwayt, "that it was less like a school because it was more like life? It *was* life. If I am not mistaken, history for this community was making in that schoolroom as we entered."

"You're perfectly right, Doctor," said the Colonel. "Columbus Brown and about a dozen others living outside the district are calling Wilbur Smythe in counsel to perfect plans for an election to consolidate a few of these little independent districts for the express purpose of giving Jim Irwin a plant that he can do something with. Jim's got too big for the district, and so we're going to enlarge the district, and the schoolhouse, and the teaching force, and the means of educational grace generally. That's as sure as can be—after what took place this morning."

"He's rather a wonderful person to be found in such a position," said Professor Gray, "or would be in any region I have visited."

"He's a native product," said the Colonel, "but a wonder all the same. He's a brown mouse, you know."

"A—a—?" Doctor Brathwayt was plainly astonished. And so the Colonel was allowed to tell again the story of the Darbishire brown mice, and why he called Jim Irwin one. Doctor Brathwayt said it was an interesting Mendelian explanation of the appearance of such a character as Jim. "And if you are right, Colonel, you'll lose him one of these days. You can't expect to retain a Cæsar, a Napoleon, or a Lincoln in a rural school, can you?"

"I don't know about that," said the Colonel. "The great opportunity for such a brown mouse may be in this very school, right now. He'd have as big an army right here as Socrates ever had. The brown mouse is the only judge of his own proper place."

"I think," said Mrs. Brathwayt, as they motored back to the school, "that your country schoolmaster is rather terrible. The way he crushed that Mr. Carmichael was positively merciless. Did he know how cruel he was?"

"I think not," said Jennie. "It was the truth that crushed Carmichael."

"But that vote of thanks!" said Mrs. Brathwayt. "Surely that was the bitterest irony!"

"I wonder if it was," said Jennie. "No, I am sure it wasn't. He wanted to leave the children thinking as well as possible of their victim, and especially of Mr. Bonner; and there was really something in Mr. Carmichael's talk which could be praised. I have known Jim Irwin since we were both children, and I feel sure that if he had any idea that his treatment of this man had been unnecessarily cruel it would have given him a lot of pain."

"My dear," said Mrs. Brathwayt, "you are to be congratulated for having known for a long time a genius."

"Thank you," said Jennie. And Mrs. Brathwayt gave her a glance which brought to her cheek another blush, but of a different sort from the one provoked by the uproar in the Woodruff School.

There could be no doubt now that Jim was thoroughly wonderful—nor that she, the county superintendent, was quite as thoroughly a little fool. She to be over him! It was too absurd for laughter. Fortunately she hadn't bothered him much—but who was to be thanked for that fact? Was it owing to any wisdom of hers? Well, she had decided in his favor in those first proceedings to revoke his certificate. Perhaps that was as good a thing to remember as was to be found in the record.

XXXVII

It Was a Great Event

AND so it turned out quite as if it were in an old ballad, that "all in the merry month of May," and also, "all in the merry green wood," there were great doings about the bold little promontory where once stood the cabin on the old woodlot where the Simms family had dwelt. The brook ran about the promontory, and laid at its feet on three sides a carpet of blue grass, amid clumps of trees and wild bushes. Not far afield on either hand came the black corn land, but up and down the bluffy sides of the brook, for some distance on both sides of the King-dragged highway, ran the old woodlot, now regaining much of the unkempt appearance which characterized it when Jim Irwin had drawn upon himself the gentle rebuke of Old Man Simms for not giving a whoop from the big road before coming into the yard.

But Old Man Simms was gone, with all the Simmses, now thoroughly established on the Blanchard farm and quite happy in their new success. The cabin was gone, and in its place stood a pretty little bungalow about which blossomed the lilacs and peonies and roses and other old-fashioned flowers, planted there long ago by some pioneer woman, nourished back to thriftiness by Old Mrs. Simms, and carefully preserved during the struggles with the builders of the bungalow by Mrs. Irwin. For this was Mrs. Irwin's new home. It was, in point of fact, the teacher's house or school manse for the new Consolidated Woodruff District, and the old Simms woodlot was the glebe land of the school manse.

Jim turned over and over in his mind these new applications of old, historic, significant words, dear to every reader of history—"glebe land," "school manse"—and it seemed to him that they signified the return of many old things lost in Merrie England, lost in New England, lost all over the English-speaking world, when the old publicly paid clergyman ceased to be the servant of all the people and they consequently refused to be taxed for his support. Was not the new kind of rural teacher to be a publicly paid leader of thought, of culture, of progress? And was he not to have his manse, his glebe land, and his "living"? And all because, like the old clergyman, he was doing a work in which everybody was interested, and for which they were willing to be taxed. It was not the old status. Perhaps it was not as high a status as the old; but who was to say that? Certainly not Jim Irwin, the possessor of the new kind of "living," with its "glebe lands" and its "school manse." He would have rated the new quite as high as the old.

From the brow of the promontory a light concrete bridge took the pretty little gorge in the lead of a single arch, and landed the eye at the bottom of the front yard of the schoolhouse. Thus the new institution of life was in full view of the school-manse veranda, and yet shut off from it by the dry moat of the brook and its tiny meadows of blue grass.

Across the road was the creamery with its business-like unloading platform, and its addition in process of construction for the reception of the machinery for the co-operative laundry. Not far from the creamery, and also across the road, stood the blacksmith and wheelwright shop. Still down the stream were the barn, poultry house, pens, hutches, and yards of the little farm—small, economically made, and unpretentious, as were all the buildings save the schoolhouse itself, which was builded for the future.

And even the schoolhouse, when one thinks of the uses to which it was to be put—kitchen, nursery, kindergarten, banquet hall, theater, moving-picture hall, classrooms, manual-training rooms, laboratory, and counting-room, and what not—was wonderfully small; Colonel Woodruff said, far too small, though it was necessarily so large as to be rather astonishing to the unexpectant passer-by.

The unexpectant passer-by this May day, however, would have been especially struck by the number of motor cars, buggies, and surreys parked in the yard back of the creamery, along the roadside, and by the driveway running to the schoolhouse. People in numbers had arrived by five o'clock in the afternoon, and were still coming. They strolled about the place, examining the buildings and grounds, and talking with the blacksmith and the buttermaker, gradually drawing into the schoolhouse like a swarm of bees into a hive selected by the queen. None of them, however, went across the concrete bridge to the school manse, save Mrs. Simms, who crossed, consulted with Mrs. Irwin about the shrubbery and flowers, and went back to Buddy and Jinnie, who were good children but "natchally couldn't be trusted with so many other young ones withouten some watchin'."

[TO BE CONCLUDED IN THE NEXT ISSUE]

Jim Irwin in Real Life

SINCE we began the publication of Farm and Fireside no story published in it has elicited so many comments, almost universally favorable, as "The Brown Mouse." It is a simple, homely tale, but the people of this great country seem to like it. Not a few rural teachers have written of their own success in creating a new kind of rural school, and many have written, "I too am a brown mouse."

That there are Jim Irwins in real life is proven by the Portage Township consolidated rural school sixteen miles south of Houghton in the upper peninsula of Michigan. According to an article in the "Journal of Education" this school has become in a small way the public creamery of the district, the milk being brought in, and not only tested, but separated and churned.

There is, in fact, nothing in our story of Jim Irwin's work in the Woodruff District which is not done somewhere in the United States as school work.

Nowhere, perhaps, has everything been brought under one supervision as Jim brought it—but not only what he is described as having done, but many other things far too numerous to bring into the story are actually developed as school work.

For most schools the story is a prophecy. For some it falls short of things already accomplished.

We take this occasion to thank our readers for their generous approval of the story and their perfect appreciation of its message.

Summertime Fashions

With Practical Patterns for Making Designed by Grace Margaret Gould

No. 2774

No. 2774

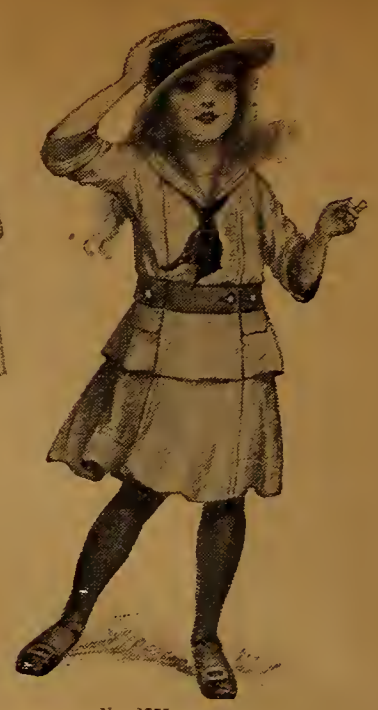
No. 2774—Girl's Suspender Dress with Sailor Blouse

6 to 10 years. Material for 8 years, one yard of forty-inch material for the blouse, and one and one-half yards of forty-inch material for the skirt and trimmings. Price of this pattern is ten cents

No. 2775—Girl's Sailor Suit: Skeleton Under-Blouse

6 to 10 years. Material for 8 years, three and three-eighths yards of thirty-inch material, or two and one-half yards of forty-inch material; one-half yard contrasting material. Pattern, ten cents

No. 2775



No. 2775

No. 2788
No. 2789

No. 2775

No. 2787

No. 2787

No. 2788—Surplice Waist with Elbow Sleeves

36 to 50 bust. Material for 36-inch bust, two and one-half yards of thirty-inch, with one-half yard of contrasting. Pattern, ten cents

No. 2788
No. 2789

No. 2789—Six-Gored Skirt

26 to 40 waist. Material for 26-inch waist, four yards of thirty-inch. Hip measure in 26-inch waist, forty inches. Width, two and one-half yards. The pattern is ten cents

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FASHION has invented many pretty little fads this season that add a festive note to the costume. One of the most attractive of these is the tulle scarf to wear with a light dress cut low in the neck. Two yards of 25-cent tulle is used. It is softly draped across the shoulders and needs no fastening, as it clings to the figure. Another fad is the use of black velvet in every conceivable way—bands of it trimming wide full skirts, wristlets of it fastened with tiny flowers to take the place of bracelets, a band of it encircling the neck, and again a band encircling the head in what is known as the Castle style, because it is the way Mrs. Vernon Castle, the famous dancer, wears her hair ornament. Waists with sleeves of contrasting fabric, matching or differing from waist color, are very popular.

A PRACTICAL petticoat pattern is a necessity in almost every home. The model shown on his page is sure to prove useful, for a number of different petticoats may be made from it—a plain one, as illustrated, one with a plain circular flounce, or one with a full frilly flounce. Patterns for the flounces are included in the pattern No. 2787—Four-Gored Petticoat with Adjustable Flounce. 24 to 36 waist. Price of this pattern, ten cents.

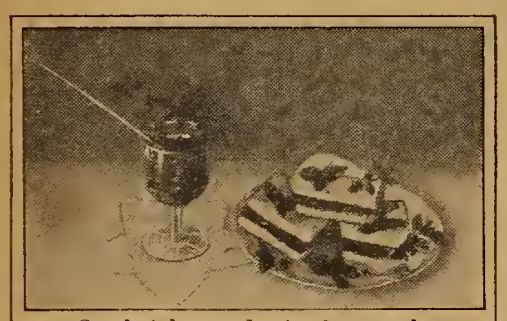
WOMEN who are inclined to be stout often have considerable trouble in finding a dress that is becoming. For this reason the dress shown on this page, Nos. 2788 and 2789, was designed. Surplice effects are always good style for full figures; panels also give long lines. Both are introduced in this model, and other helpful features are added in the way of the shaped belt, the pointed revers that fall in softly draped folds, and the bell-shaped cuffs. Gored skirts are coming back into favor, and this model is cut in six gores with just enough flare at the lower edge to make it graceful. This dress may be made of almost any desired material—wool, cotton, or silk—according to one's needs, and may be made simple or rather dressy according to the trimming.

THE made-at-home garment is always cheaper and more durable than the one purchased in the stores. For this reason you will be glad to have patterns for the designs illustrated on this page. They may be ordered by mail from the Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City, or Pattern Department, FARM AND FIRESIDE, Springfield, Ohio. In ordering patterns always give bust, waist, and hip measures.

Recipes for To-day

Convenient Uses for Mint and Strawberries

By JULIA A. WHITSON



Sandwiches and mint lemonade

Mint Sandwiches With Mint Lemonade—Grind some meat through a food chopper. Strip the leaves from six or eight sprays of mint and cut them as fine as you would cabbage. Place them in a granite pan and pour a little boiling water over them. Then set them on the stove to wilt. Mix them with the ground meat, add salt, a dash of cayenne pepper, and enough salad dressing to hold it all together.

Spread this mixture between very thin slices of bread and fasten the slices with toothpicks. Garnish the sandwiches with mint sprays.

For the mint lemonade take one cupful of boiling water and wilt six sprays of mint in it. Add three tablespoonfuls of sugar, pour and strain into a quart jar. When cool fill the jar with water and add the juice of two lemons. Serve ice cold with mint sprays in each glass.

Mint Jelly With Graham Gems—Take four cupfuls of sour apple juice and two cupfuls of sugar. When done, swish six sprays of mint in the hot liquid until they are wilted. Then throw them away. Pour this juice into very small glasses, such as children use in their playhouses, so that one can serve individual molds.

For the Graham Gems take two cupfuls of Graham flour, one cupful of white flour, two teaspoonfuls of baking powder, and a pinch of salt, and sift them all together. Add two cupfuls of sweet milk, one egg, one tablespoonful of molasses, and one tablespoonful of sugar. Heat the gem pans before putting in the mixture, and bake in a moderate oven.

Mint Sponge Cake—Beat well two eggs and one-half cupful of sugar. Add four tablespoonfuls of strong mint juice, one heaping teaspoonful of baking powder sifted in two thirds of a cupful of flour, and a pinch of salt. Beat these together. The mint juice is made by boiling mint leaves in a very little water and straining it. Bake the cake in a square pan, and when cold cut it in triangles and ice it with mint icing made as follows:

Boil until it is past the soft-boil one cupful of sugar and one-third cupful of mint juice. Take it off the fire, and after two or three minutes pour slowly, while beating it constantly, over the beaten white of one egg. When it is thick and smooth, spread the icing on the triangles. Take your spoon and drop lumps of the icing in one corner of the triangles. When you are ready to serve the cake draw a small spray of mint through these lumps for garnishing.

Frosted mint sponge cake

Mint Pudding—Into two cupfuls of boiling water put four tablespoonfuls of sugar. Swish six long sprays of mint (by the stems) around in this boiling water until the leaves are wilted and then throw the sprays away.

Mix three heaping tablespoonfuls of cornstarch in a little cold water and stir it into the boiling water flavored with mint. Boil it until clear. Take from the fire and pour it slowly on the beaten whites of four eggs. Turn into molds.

For the sauce take one pint of milk, the yolks of four eggs, and three tablespoonfuls of sugar. Cook them in a double boiler. Before thickening, swish in about three sprays of mint until they wilt, and then throw them away. Serve this ice cold with mint sprays on each mold.

Mint jelly and Graham gems

Mint Salad—Select tender mint leaves, wash, drain, and cut them fine. Add one third this amount of chopped onions. Season with salt and pepper. Take the yolks of two hard-boiled eggs and mash them until smooth, add salt, a dash of cayenne pepper, and one tablespoonful of butter. Mix them well, and pour on a little vinegar slowly, beating all the time until the mixture is of a creamy consistency. Add this to the mint and onions. Serve this individually and garnish it with tiny onions. This salad is specially good with roast pork or lamb.

Mint salad with onions

Mint pudding with sauce

Strawberry Shortcake—Sift together two cupfuls of pastry flour, two teaspoonfuls of baking powder, and one teaspoonful of salt. With the tips of the fingers, well floured, work into the mixture one-half cupful of butter, mix with about one and one-half cupfuls of milk and water combined, and spread in two buttered pans. When baked, butter the under side of each crust well, and put together with two baskets of berries that have been standing, mixed with two cupfuls of sugar. Slice or mash the berries. Whip a cupful of cream and two tablespoonfuls of powdered sugar for the top of the cake, or it is also delicious when served plain.

Strawberry Pie—Make a crust same as for any pie, and have one quart of strawberries. Select one pint and put into the bottom crust, sprinkle over three tablespoonfuls of sugar and one tablespoonful of flour, then the other pint of berries, three tablespoonfuls more of sugar and one of flour. Roll out the top crust, and with a thimble cut holes about one inch apart. Be sure to get the edges of the crust well fastened.

Strawberry Cream—One large tablespoonful of butter beaten to a cream, add one and one-half cupfuls of powdered sugar and the beaten white of one egg. Beat until very light. Just before serving add one pint of mashed strawberries.

E

Stories Our Girls Like to Read

Marjorie in the Moon

For Younger Girls, by HELEN J. KEYES

ONCE there was a little girl named Marjorie, and she was littler than she was young. She was really nine, but she looked only seven. When her mother called her at bedtime Marjorie always wauted to do one thing more before going. Sometimes it seemed as if the sun would rise again aud find her still at play.

One summer evening her mother called her at seven o'clock.

"Oh, Mother," Marjorie cried, "wait till I finish playing on the teeter-totter."

"Well, be quick, dear," Mother conseuted.

Presently she called again.

"Oh, Mama," Marjorie objected, "I'm just hanging some rope on the apple tree for a new swing."

"Well, hurry up," said her mother, returning into the house.

In a few minutes she spoke once more.

"You *must* come now."

"Just wait till I get those ripe cherries at the top of the tree, Mama." Soon Mother saw her little girl clamber down from the cherry tree, all stained with juice.

"There's no time to dilly dally," she cried. "Go right up to your room."

"I think I'll climb to the moon first!" Marjorie shouted.

I suppose she was getting sleepy or she would not have had such a droll idea, but just as she said it the moou slid a beam dowu to her and she began to climb. By and by she could not hear her mother's voice any more, eveu when she listened. That made her feel both frightened and ashamed, for she knew it must be a punishment for disobeying so often what the voice had told her to do.

She grew very tired climbing, but she could not stop. The beam which had looked so soft became bumpy and hard under her feet, and it threw up light which hurt her eyes so that she longed for the dark which always flowed around her little bed at night.

It was awfully cold and the man in the moon was cross

By and by she stood at the gate of the moon. It looked like au iceberg. Then a stone bear walked out from behind it. He had a queer smile, just as real furry bears always do, but it was a stouy, scornful smile, and Marjorie was afraid.

"The mau in the moon awaits you!" roared the bear. "Come!"

Trembling, she followed over rocks and ice. There were not any flowers, trees, or growing things and it was very still, for no insect hummed and no bird sang. Presently she saw an old man rising like an image out of a field of snow. He was made of snow himself, but his beard was formed of icicles and his eyes were a glassy blue.

"Well," he inquired, "who are you?"

Marjorie did not know what to say.

"You dou't meau to tell me you are a child?" he roared, raising up one of his great snow arms. "Are you? Are you?"

"Ye-yes," Marjorie faltered.

"Well, I never!" he shrieked. "I thought children were fat and rosy and bright-eyed. I've waited all my life to see a child, and now you come. You're thin and pale and your eyes are dull; you dou't sleep euough. I certainly am disappoiuted."

"Well, I'm disappoiuted too," sobbed Marjorie. "I thought you were cheese, and you're only a snowdrift."

Then the Man iu the Moon sighed.

"Hope is a pricked balloon," he wailed. "It pops and is no more. You thought I was cheese; I thought you were sugar and spice and all things nice. But, alas, alas, hope pops like a balloon and is no more!"

He began to weep such floods of tears that Marjorie thought he would melt away. But nothing ever melts in the moon. He simply grew bigger aud icier, for his tears froze upou him until he was enormous.

"I want to go to bed!" cried Marjorie. "I want to be covered up; I'm cold. I waut my mother."

"You could have slept," wondered the Cold Old Man, "but instead you cried for the moon. Here we have no sleep, no warmth, uo mothers. You had the earth and you cried for the moon! Alas, alas, hopes pop like pricked balloons and are no more!" He wept again, but stopped suddenly.

"I'm putting on ice!" he shrieked. "Orso the Bear, bring me my anti-ice medicine. I will *not* lose my figure. Why did you make me cry, you horrid child? Orso, get the hose and spray her till she is frozen into a block of ice, then set her on my castle walls."

"No, no! Mother, Mother!" Marjorie screamed. . . .

Then all at once Transit, the bird, carried her away and soon she fell into the arms of her mother, and they hugged each other over and over agaiu very tight.

"May I go to bed?" she murmured. "I'm so sleepy."

So Mother laid her in her little white nest and she slept.

Always after that Marjorie went to bed so quickly when her mother called that soon she grew bigger than she was old.

E

Stumps—a Parable

For Older Girls, by ABBIE GRAHAM

WHILE visiting a college last week I spent an hour with Flora, one of the girls from our couuty, in East Woods, a beautiful place near the college town.

The out-of-doors is a spleudid place to be just your plain, every-day selves, and we were ourselves that day. We talked of the three years Flora had speut there at college, and neither of us was satisfied with what she had done with them. Flora asked me about another girl whom I had just seen at a near-by college—a girl who had been her best friend in her high-school class. When I told her how much college was meaning to her, she said:

"You think she has accomplished more than I since we left high school, don't you?"

"Yes," I answered, "but then she has had much more of a chance."

Flora looked up at me with quick surprise—surprise because she knew that this other girl was having to make her owh way. She had taught two years, and was now just a freshman, with no way open to her for another year at college, while Flora had her whole course assured. But I knew that character is strongest under adversity.

Do you wonder where I fouud this philosophy of living? It was out in the fields—"out in the fields with God." It all came about through my interest in stumps.

At first I had the idea that a field that was all filled with stumps was utterly useless. The stumps were in the way. But now when I see a field of them I think of a sentence in a little bulletin: "The iucreasing value of land renders it now more uecessary than ever that each acre, especially of farm laud, should be cleared of stumps, not ouly because they are in the way but because, as every farmer knows, the land under a stump is the *richest of virgin soil.*"

A field of stumps has come to meau to me a field of "the richest virgin soil." A life full of obstacles is likewise a life full of opportunity for the vitalizing of character.

This bulletin tells of the different kinds of stumps: "Some stumps are old, some green, some large, some small, some have taproots—the varieties are endless." In our lives, though, there are chiefly two kinds: the stumps inside and the stumps outside of us.

The girl with the stumps inside of her always challenges my interest because I know there must be some rich possibilities uuderueath.

I met a girl the other day who reminded me of an illustration in the stump bulletin: "Showing how thick they grow." They were growiug so thickly in her that some people only saw the stumps. She had au uncontrollable temper, a malicious tongue, a discontented spirit.

Ann asked me to her room in the dormitory, and we stood watching the sunset. The quiet sunset glow helped us to distinguish real things. I began telling her some stories. Among others was the one about the handful of clay which thought it would be made into a pot to be placed in the king's palace or the temple. But when the potter had completed his work the clay had beeu molded only into an ugly, common flower pot. This pot was too disappointed to notice when something brown and dead-lookiug was thrust into it, but after a while it begau to feel a change. One day it was taken to the temple and everyone gazed at it. By and by it learned that the reason for its being brought there was that springing out of its heart was a royal scepter of lilies. Then the common flower pot was coutent because, although only au ordinary vessel itself, a beautiful flower was growing in it.

The suuset light was not strong enough now to make shadows in the room. Ann began telling me some of the things that other people did not know about. I learned how rich the soil was underneath her faults, if the stumps could only be cleared out!

It would be very discouraging if my little stump bulletiu stopped here, just where you are convinced that the stumps ought to be removed, where you have caught a glimpse of the possibilities of the rich soil underneath and yet do not know how to clear your opportunity. If it did stop here I should never have brought this stump message to girls who are discouraged because of the stumps inside of themselves, because of the stumps outside of themselves. But—do you know?—the entire purpose of this little bulletin is to teach us how to remove stumps. It is published by a dynamite manufacturing company. It is possible to remove every stump with dynamite. "The object in blasting these stumps is not to split them but to remove them completely."

When you get oue stump up it is easier to get the next one up, because you need firm clay with which to pack the dynamite; and "after oue stump is blasted you can usually find good tamping (packing) material at the bottom of its roots."

It is possible then to clear our fields of all stumps—and, oh, the richness of the soil beneath!

WHEN DINNER COMES

One Ought to Have a Good Appetite.

A good appetite is the best sauce. It goes a long way toward helping in the digestive process, and that is absolutely essential to health and strength.

Many persons have found that Grape-Nuts food is not only nourishing but is a great appetizer, and children like the taste of it and grow strong and rosy from its use.

It is especially the food to make a weak stomach strong and create an appetite for dinner.

"I am 57 years old," writes a Tenn. grandmother, "and have had a weak stomach from childhood. By great care as to my diet, I enjoyed a reasonable degree of health, but never found anything to equal Grape-Nuts as a standby.

"When I have no appetite for breakfast and just eat to keep up my strength, I take 4 teaspoonfuls of Grape-Nuts with good rich milk, and when dinner comes I am hungry. While if I go without any breakfast I never feel like eating dinner. Grape-Nuts for breakfast seems to make a healthy appetite for dinner.

"My little grandson was sick with stomach trouble during the past summer, and finally we put him on Grape-Nuts. Now he is growing plump and well. When asked if he wants his nurse or Grape-Nuts, he brightens up and points to the cupboard. He was no trouble to wean at all—thanks to Grape-Nuts."

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There's a Reason."

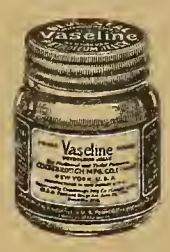
Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

For keeping your skin clear and sound—for allaying irritation and smoothing away roughness—

Vaseline

Reg. U. S. Pat. Off.

is better than the so-called "complexion aids." And the cost of a tube or bottle of "Vaseline" is trifling in comparison.



"Vaseline" is absolutely pure. Invaluable for all toilet and nursery uses, and for burns, cuts, scratches, etc.

Sold by drug and general stores everywhere. Write for booklet describing the various "Vaseline" preparations and their many uses.

CHESEBROUGH MFG. CO.
(Consolidated)
36 State Street New York City

SUGAR GIVEN AWAY

We will send prepaid three pounds of granulated sugar with each $1.00 order for three pounds of our regular $.35 Breakfast Blend Coffee or we will send three pounds of granulated sugar with each $1.00 order for two pounds of regular $.50 Tea, Black, Green or mixed. Money back if not satisfied. Lowest prices on canned goods and provisions. Don't miss this opportunity to save money, buy cheaper than ever before. Write today for our complete price list.

Reference: Corn Exchange Bank, New York City.

THE HOUSE OF FREE SUGAR, INC.
58 W. 23rd St., New York City.

FREE Illustrated Catalog—Describing our Sanitary and Hygienic Specialties For Particular Women and children—Toilet and Household accessories—Mailed FREE.

THE FORTUNA CO., 202 Wilder Bldg., Rochester, N. Y.

Liceol Kills Lice

Rids chickens and poultry house of lice and mites in 48 hours. No handling fowls. Vapors kill insects. Big Bottle postpaid 50c. Money back if it fails. Illustrat'd circular FREE. Agents Wanted

W. H. METZGER MFG. CO., Dept. 57, QUINCY, ILL.

Stumping the Storekeeper

The behind-the-times storekeeper isn't really doing the right thing for you, his customer. The wide-awake storekeeper is. You can stump the behind-the-times storekeeper and you can have a good time with the wide-awake storekeeper by getting the catalogues of the manufacturers who make the things you are interested in and asking the storekeeper if he carries them. If not, why not? When you write the advertiser for his reading matter, please mention FARM AND FIRESIDE.

Hudson is the Class Car

Wherever You Go, That Fact is Apparent

Your delight in your new car will largely depend on these two features in it—

Pride of ownership
Freedom from trouble

One can't long enjoy a car unless he is proud of it. And a car that isn't dependable becomes unendurable. That is particularly true in the country, away from repair shops. Don't overlook those facts.

New Ideas of Class

Men who could afford them used to buy big, impressive cars. Now all that excess is distinctly out of vogue. Good taste now calls for lightness, moderation and refinement. And the HUDSON best appeals to that taste.

Over 4000 HUDSONS are now owned in the metropolitan district of New York. Fifth Avenue is crowded with them. Hundreds of the finest homes have HUDSONS at the door.

In Chicago, the great packers own HUDSONS. In Pittsburgh, the steel kings. In Washington, four embassies have HUDSONS, one cabinet member and many men of national fame. The governors of nine states own them.

So everywhere you go. HUDSON is the class car of this new-day type. The man who owns one finds himself in distinguished company.

No More Experiments

It is not mere pride, but caution, which wins these men to HUDSONS. They are experienced motorists. And you don't find such men buying untried cars.

Men who can best afford it are the last men to take risks. They demand known quality—proved-out makes. In this new-type car, with its many radical changes, they demand it more than ever. They must know it is free from mistakes.

HUDSON is the pioneer Light Six. It is designed by Howard E. Coffin, the man who created this type. Four years have been spent in perfecting and refining it.

And 12,000 owners have proved it. In the past two seasons they have driven this HUDSON some 30 million miles. They have found it dependable under every condition. Rarely is a car created so utterly free from fault.

Men Who Try to Save

There are many Light Sixes this year. Some cost much more than HUDSONS. Some cost a little less; and that seeming saving tempts many a man, we know.

But remember that this HUDSON costs $200 less than it did when it first came out. That is due to our mammoth production of this single type. It has trebled in a year. The value this HUDSON now offers is incomparable.

The cars which cost less are not like the HUDSON. Even weight comparisons will show that. If the extra weight is but 450 pounds it means the weight of three adults.

Any saving in price which means skimping is quickly wiped out in repair cost. After a few months of running, an undergrade car is expensive. Ask any experienced motorist.

Men who live in the country want reliable cars. Repair shops are not convenient. Experts are not on call. Farmers, above all, should buy reliable cars. They cannot afford to take chances.

That's particularly true of a new type, which the Light Six is. You risk the loss of the price saving over and over if the car isn't well tried out.

What Hudson Stands For

In the motor car world, HUDSON stands for uncompromising quality. No part is ever skimped.

It stands for true lightness. By better materials and better designing we have cut tire and fuel cost in two.

It stands for utter refinement. We have devoted four years to this model. And two of those years—since the car first appeared—have been given to final touches.

The more you look about the more you will want the HUDSON. It will outlast a low-grade car by years. If sold second-hand it will bring a much higher price. It will cost you far less in the long run. It will multiply your enjoyment.

Find this out before we are oversold.

7-Passenger Phaeton or 3-Passenger Roadster
$1550, f. o. b. Detroit

The HUDSON Company never loses interest in the car it sells. So long as the car is in service we maintain our interest in the character of its service. That's one great reason for HUDSON reputation.

HUDSON MOTOR CAR COMPANY, Detroit, Mich.

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FARM and FIRESIDE

The National Farm Paper - Every Other Week

ESTABLISHED 1877

Saturday, June 5, 1915 5 cents a copy

What's Wheat Doing To-day?

Good Farm Photographs Are Worth Money

ONE hundred dollars in cash prizes is offered for photographs of farm scenes—the farm home, the barns and the sheds, the cattle, the sheep and the lambs, the dogs, an old tree, a load of hay, the boys or the hired man cultivating corn, the old spring, the country church, the country school—any picture of interest about the farmer, his family, his home, his live stock, or his business and pleasure activities.

Photographs of unusual things about the farm, and other interesting things in nature, or pictures of buildings partially destroyed by storms or fires, should not be overlooked in submitting photographs.

We want these photographs for use as illustrations for Farm and Fireside. The pictures have to be good prints to make good illustrations, and they should tell or show something plain enough so words of explanation are not necessary.

The contest closes July 1, 1915. The list of prizes follows: For the best picture, $25; for the second best, $15; for the third best, $10; for the five next best, $5 apiece; for the twenty-five next best, $1 apiece. Send your pictures to

Photo Contest Editor

Farm and Fireside

Springfield, Ohio

The Editor's Letter

At Coolfont Farm, May 24, 1915

THE other day I opened a letter from a friend living in Iowa, and a card fell out on which were printed these verses, written by Mr. Arthur Chapman of Denver:

Out where the handclasp's a little stronger,
Out where the smile dwells a little longer—
That's where the West begins.
Out where the sun is a little brighter,
Where the snows that fall are a trifle whiter,
Where the bonds of home are a little tighter—
That's where the West begins.

Out where the world is in the making,
Where fewer hearts with despair are aching—
That's where the West begins.
Where there's more of singing and less of sighing,
Where there's more of giving and less of buying,
And a man makes friends without half trying—
That's where the West begins!

Well, if a Denver man wouldn't think well of the West, who would?

So thought I, and smiled a smile made up about half and half of amusement at the bubbly enthusiasm of Mr. Chapman of Denver, and of appreciation of the West—my native West—as I have known it ever since my feet were sore from the stubbles of the burnt prairie.

An Invitation From Washington

I went on opening my mail, and in about a minute out came this letter from Mr. R. L. Allen of the new State of Washington:

"Just to let you know that I very much appreciate your work as editor of FARM AND FIRESIDE I am going to extend you a cordial invitation to make us a visit when you come West to the exposition this summer. You can occupy our best room, or maybe you would rather sleep in the tent out in the orchard.

"If we knew when you were coming we would meet you at the depot. Show you all through the orchard tracts and all the different kinds of farming that is being done here in the Yakima Valley, and when you got ready to go we would deliver you back to the station all free of charge.

"I believe when you get back to your office you will be able to write a very interesting article on what you will see and learn about the farming and fruit-growing of almost every description in the Yakima Valley.

"Think this proposition over and let me hear from you. I am in earnest and mean just what I have written.

"We live on thirty acres of land which we have rented. On this land our principal crop is alfalfa hay, potatoes, tomatoes, apples, peaches, pears, and grapes. We get our water supply by irrigation. We have a small bunch of cattle, hogs, chickens, horses.

"We have a fine view for many miles across the valley, which enables us to see the Yakima River, Northern Pacific Railroad, Horse Heaven wheat fields; also Mount Adams and Mount Rainier, both of which are covered with snow and ice all the year around."

"Now here," said I, "is where Mr. Chapman of Denver proves his case!"

The Yakima Valley! Horse Heaven! Mount Adams and Mount Rainier, with their eternal copes of snow; and all seen from among the bowing peach trees, with the pheasants, quail, and "almost every other song bird" calling your attention to the fact that it is morning!

That sounds very much like a place "where the handclasp's a little stronger," doesn't it? And this cordial invitation from a family who know me only through these more or less feeble efforts to make a farm paper which shall be really "The National Farm Paper."

Then I thought of the kindly welcomes extended to me in the past in almost every State in the Union—New England, Alabama, among the mountains of West Virginia, on the plains of Kansas, and in the green valleys of Nebraska and the Dakotas. I thought of Wisconsin, Minnesota, Wyoming, and Maryland—and I asked myself, "Where, according to this description, is the West?"

It is anywhere in America, where the real American spirit reigns—the spirit which led Mr. Allen to send that letter to a stranger, warming his heart, and brightening his morning's task. We often forget that all of North America is west—far west. Pioneer days are not so very far back in the history of every State. In fact, I claim to live in the most typically frontier State in the Union—West Virginia, where we have virgin forests, cattle fattened on wild grass ranges, and mining camps.

Then I looked at the card again, and saw at the bottom of it these words: "The place which the author refers to as marking the beginning of the West lies somewhere between Cape Cod and the Golden Gate." But why leave out that good Western country which lies the other side of Cape Cod?

And a part of the Yakima Valley—on which, I warn Mr. Allen, I am keeping a covetous eye—lies west of the Golden Gate, while beyond the Great West, as our fathers knew it, stretches the newest Great West, Alaska. Let us say, then, that that good place where the West begins is found between Eastport, Maine (and if any Canadian desires, we'll move the stake to St. John's, Newfoundland!), on the east, to Attu Island, latitude 173 *east* from Greenwich, the western end of the great chain of the Aleutian Islands, and from Point Barrow, the northern frozen tip of Alaska, to Key West, Florida, wherever that old spirit lives which brought the Dutch to New Amsterdam, the Puritans to Massachusetts, the Cavaliers to Virginia, or the Spanish to Santa Fé.

What Should Doctors Charge?

And speaking of Florida, here's a letter from a friend down there—right near Jacksonville—who brings up a subject far less pleasant than neighborly invitations.

"I want to tell you," says he, "what the doctors charge to go outside the city. I live six and one-half miles from the courthouse, and to reach me one travels over six miles of hard-surfaced road and half a mile of earth road. We had a doctor the other day for a case of fever, and he charged ten dollars for one visit. When I remonstrated at what seemed to me an outrageous charge, he said that it was in accordance with an agreement among all the doctors—they all charged the same fees. Now what do you think of that for these hard times?"

I have my own ideas about it. It's a very important subject. I don't wish to forestall discussion, however. I believe that there are many readers who would like to be heard on the subject of medical attendance and nursing in the country districts. Let's have a good old-fashioned talking bee on this.

Herbert Quick

Always in Good Humor

DEMONSTRATING HIS ESTEEM

JAN—I suppose the baby is fond of you?

WILL—Fond of me? Why, why, he sleeps all day, when I'm not at home, and stays awake all night just to enjoy my society!—Chicago Herald.

ELIGIBLE

A Canadian named Casey was appointed to a government place. Technically, it had to be held by a lawyer, which Casey was not. The benchers of the law society, however, undertook to obviate the technicality.

"Well, Casey," said the examiner, "what do you know about law, anyhow?"

"To tell the truth," replied the candidate, "I don't know a single thing."

The examiner reported in his affidavit "that he had examined Mr. Casey as to his knowledge of the law and, to the best of his information and belief, he had answered the questions that he had put to him correctly." The aspirant was therefore admitted.—Law Notes.

SOME COOL

"And was your husband cool when the highwayman pointed the revolver at him?" asked Mrs. Naybor.

"I should say he was cool," replied Mrs. Peck. "Why, when he got home his socks were frozen to his feet!"—Peoria Star.

THEY HAD TO BE

MAUD—Don't you think there are just as good fish in the sea as ever were caught?

MARIE—I don't know. But they are smarter, anyway.—Peoria Star.

ALWAYS THE SAME

FATHER—What an unearthly hour that young fellow stops till every night, Doris! What does your mother say about it?

DAUGHTER—She says men haven't changed a bit since she was young, Daddie.—Illustrated Bits.

HE WOULD CONQUER

CLIENT—Didn't you make a mistake in going into the law instead of into the army?

LAWYER—Why?

CLIENT—By the way you charge there would be little left of the enemy.—Sacred Heart Review.

KITCHEN REPARTEE

THE VANILLA BEAN—I have a great association with epicures as a flavoring for desserts.

NUTMEG—Ah, but I have a grater.—Chicago Herald.

MUSIC is the sound which one's children make as they romp through the house. Noise is the sound which other people's children make.—Woman's Journal.

AUNT—Has anybody been at these preserves? (Dead silence.) Have you touched them, Jimmy?

JIMMY—Pa never 'lows me to talk at the table.—Woman's Journal.

IT'S a good brand of fertilizer that will raise a mortgage.—Peoria Star.

HAVE CONSIDERATION

JESSIE—Please, Auntie, the new lady next door says, her compliments and will you play very low, because her husband is extremely musical.—Chicago Herald.

NOT A MODEL

"What kind of a model is your new automobile?"

"It isn't any kind of a model," replied Mr. Chuggins gloomily. "It's a horrible example."—The Furrow.

FARM and FIRESIDE

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New Hay Machinery

Fewer Men Put Up More Forage With Modern Implements

By D. S. BURCH

PUTTING up ten loads of hay is a good day's work for two men and a boy. So when an honest-looking young man told me the other day that he put up nine full loads in one day last summer and 82 loads during the season, single-handed, it looked like an interesting bit of news.

The equipment he used was a mower, a swath hay loader, a flat-bed wagon, a hay distributor, and slings for putting hay into the barn. Everyone who has put up hay knows all of these tools except the hay distributor, which is one of the newest haying devices. You put it on the bed of any flat wagon, where it acts about the same as the apron of a manure spreader except that it moves forward to take on the load instead of backward to discharge it. The apron of the hay distributor is made of wooden strips which move over flat wooden tracks. One of the hind wheels of the wagon furnishes the power. There isn't enough resistance to cause the geared wheel to slip even in soft ground.

Now notice the series of four pictures. In the first one you can see how the device looks. The gearing is in front of the back wheel on the right-hand side, and the controlling lever is at the front of the rack. The standard between the man and the loader moves forward with the distributor as shown in the three other illustrations.

This device cannot be used except by people who have a loader. It makes a good firm load and does not need tramping unless hauled over rough roads or long distances. All the work of loading is done by the team. This distributor costs $20. Where the hay is unloaded with the hay fork or slings, it reduces the haying force to a minimum, and is rather popular with men who have small or medium-sized farms.

In this way Mr. Barnhart, the inventor of this distributor, got his idea. "I was watching some men loading hay," he said, in showing me the original model. "There were three of them, and they were using a loader. One man was driving, and the other two were standing toward the back of the rack, one on each side. As the hay came tumbling onto the rack they stuck their forks into it and pushed it forward. The idea struck me that machinery could be made to do the work of those two men, and so I just figured out this scheme."

The farmer who has a rough, stony, stumpy farm with steep hillside may not think there is much of importance in the news of haying machinery—and perhaps there isn't. His best outfit is the simplest, and consists of a mower, a one-horse sulky rake, a tedder, and a box rack. But he can use as up-to-date hoisting machinery for putting the hay in the barn as anyone. And if there is any farm task in which it pays to make machinery do the work, it is in getting in a big crop of hay. Sometimes it may seem that for a job which occupies so short a period, slow, old-fashioned methods may be made to do. And they might if it were not for the uncertainties of the weather. Considering the apparent efforts of the clerk of the weather to spoil the hay, it pays to be equipped to handle it as quickly as a camp cook handles flapjacks: flip it into the air, give it a turn, and you can laugh at the clouds—sometimes, anyhow.

I have seen two men working adjoining farms get very different results. One would have a third of his hay so damaged that it showed in the weight of his cattle the next spring, while the other had his barn full of good, sweet hay. They had no loaders, and neither used hay caps. Each had a three-man crew. One had better judgment than the other. Judgment is a better name for luck. The unfortunate man of these two might change his luck by adopting hay caps.

The president of a concern which makes haying equipment advises against the purchase of machinery to be used on land on which it will not work well. "I should say," said he, "as a result of my experience, that the man who has rough land should get the simplest hay machinery he can, but the man with broad meadows should have the equipment which will do the most work with the least number of men and horses."

This successful manufacturer once traveled from Ohio to Virginia to see how a practical farmer there made an income of $40,000 a year from 500 acres of alfalfa. He found him equipped with seven cylinder rakes, seven windrow loaders, and the necessary wagons. He gets $20 a ton for hay after shipping it by water a distance of 20 miles. His gross income is $80 an acre—and even after taking out the expense of establishing the alfalfa, making the hay and selling it, he has a splendid income. But it can be safely asserted that he is a mighty skillful haymaker.

A hay distributor costing $20 will load the hay on the wagon. Power is furnished by the rear wheel of the wagon

All the man does is to drive the team, and watch the loader and the distributor to see that they perform the work

As soon as several hundred pounds of hay have been elevated by the loader, the distributor is thrown in gear

Moving forward over a smooth track on a flat-bed hay rack, the distributor soon has the wagon loaded

How about the side-delivery rake? This question is often asked of us, and often answered. Let's answer it again. The side-delivery rake is a time saver. It makes a long windrow the first swipe, and you can begin loading this at once instead of waiting until all the windrows are long enough to work on. The windrow is nice and loose, and the hay will cure in it well if it needs curing. This system often saves the loss of the best part of the hay in the cases of alfalfa and the clovers—I mean the leaves.

There are side-delivery rakes on the market now which will do the work of a tedder, but not while raking. A lever changes the raking motion into the backward, kicking movement of the tedder.

The side-delivery rake cannot be used for bunching windrows for loading with forks. It is not a good tool for hilly or uneven ground. These are its drawbacks. It is as necessary for us all to know the drawbacks of tools as their virtues. Most tools manufactured work well under the conditions for which they are intended, and with the equipment to correspond with them.

A first-class side-delivery rake costs about $60, while you can get a 10-foot rake for $25 or less. A man must figure on the size of the pile of hay to be handled in determining whether or not the expensive rake will pay him.

With a good swath loader the rake can be dispensed with entirely if the hay is simply dried in the sun and not cured in windrows or cocks. The swath loader costs about $62, and saves the cost of raking, cocking up, and pitching.

Another brand-new improvement is the two-speed mower. The regular speed of the ordinary sickle is 52 strokes to the turn of the main wheel. The two-speed mower has 54 strokes on high speed, and 44 strokes on low. I timed a man changing speeds, and it took him just four seconds. It is claimed for this machine that it will walk easily through heavy cutting on high speed, and that when on low it will run perfectly through light grass or weeds—anything which cuts easy—thus saving power and bother. We should be glad to hear reports from farmers who are using this machine.

Did you ever have your mower wheels bog down in swampy or loose soil? There is a new invention which meets these conditions. It is an extension rim on the mower wheels which gives them an eight-inch tread. With a light person on the seat these wheels will drive the machinery on almost any ground on which the team can navigate.

Chain-drive mowers seem to be passing out of popularity. The trouble seems to be that the lost motion causes the sickle to clog. Most mower troubles, even with the best pitman-driven machines, are due to this clogging. Time spent on the sickle and sickle bar is well spent if it prevents clogging. A dull sickle won't work. Neither will a sharp one if it isn't ground properly. It is sometimes a temptation to grind the sections a little on the lower side to bring them to an edge sooner. Fatal mistake! Such grinding will prevent the knives from "shearing" with the guards, and it will clog no matter how sharp it is made. If the sections are ground so that the edge curves outward in the middle, it will clog. Grind them straight like a V, or with an inward curve like an arrowhead.

Bent guards cause clogging. If one guard is bent up it will lift several sickle sections so they won't shear with the guards. If a guard is bent down, the sickle won't shear on it. When the wearing plates under the sections become worn the sickle will tilt up and refuse to cut clean. A blacksmith can correct this.

There is, however, a mower on the market to-day which has remarkable wearing lugs that can be

changed in a moment, thus saving the time which a trip to the blacksmith would take.

Wooden pitmans are still used on the best mowers. Metal crystallizes and gets brittle under the tremendous amount of jarring work done by the pitman.

A time-saving device is the triple-drum power hoist brought out this year by an Iowa concern. It is an outgrowth of the single-drum hoist shown in the picture on page 12. This single drum hoist has been on the market now about three years. It is used where the hay simply has to be elevated and carried back into the mow.

The triple-drum hoist is made for barns where the hay is carried up in the center and mowed away on both sides. The single-drum machine is operated from the load by ropes, but for the triple-drum a second man is needed to get best results.

One large drum does the hoisting while two smaller ones move the load to one side or the other.

With the new device you need not lift the hay up to the track. Just hoist it clear and run it to either side by throwing one of the smaller drums into gear.

It takes from three to six horsepower to run one of these hoists. The more power, the faster you can work. A four-horsepower engine does nicely. By actual test a full-size load of hay was put in a barn in four minutes. It was taken up in two drafts with slings.

A good way to handle hay with a power hoist is with a sling at the bottom of the load, and a hay fork for the top. Take one forkful off the front of the load and one off the back, and use the sling for the rest. You don't overstrain your tackle and you get the load up clean.

One ingenious owner of a power hoist used it for getting the dirt out of a pit silo he was making, and hoisted the silage out with the same rig, but finally he improved on his own ingenuity. He has his silage carrier so rigged that it is hoisted up to an overhead track on which it runs directly into the barn.

In certain lines of machinery, notably tractors, the greatest demand is for the smaller sizes, but in hay machinery it is the other way.

The great problem in haying is to beat the weather, and big tools seem to help most.

Short Cuts in Farm Work Increase Profits

Another large manufacturer announces the tendency to cut out all unnecessary operations. For instance, more hay, alfalfa in particular, is being baled directly out of the windrow, and even from the swath, being simply pushed up to the baler with sweep rakes.

The bales are piled up so that air can circulate between them, and all the sweating they get is right in the bale. The quality of such hay is perhaps not quite as good as when cured in the cock or by stacking and then baling; but your labor cost is less and your hay is ready for market much sooner.

For those who prefer to stack their hay and then bale it, a one-horse press is a handy thing. The cost of the press is from $150 to $260, and it will bale from 15 to 18 tons a day.

Now just a word about the attitude of farm implement factories toward turning out durable products. Some years ago when haying up in central Wisconsin we used to have a lot of trouble with our sulky rake. It was a one-horse, self-dump rake, but the casting that worked the dump used to break several times a season. We complained to the dealer, and got new castings fairly promptly, but they all seemed to be of about the same strength, and they all finally broke about the same place. At last I rigged up a device made of carriage bolts and oak blocks which did the tripping perfectly and, though clumsy-looking, never broke down, so that trouble was over.

But we used to wonder whether manufacturers had any idea how heavy clover hay averaging three tons to the acre actually was. It seemed like child's play for them to use cast iron in the place they did. That was twelve years ago.

In the factory where they make the hay distributor above mentioned, the manager said that he got all the farm boys he could to work for him. He has a standing offer of a dollar for every good suggestion; and besides that, he profits by their carefulness. The man who packs the seed drills made by that factory is farm-raised. He knows from experience what it means to have a part missing. He sees that his unknown brother farmer who buys a machine gets all "the works" with it, down to the last bolt and washer. This policy of employing practical farmers in implement factories is something for manufacturers to take note of. It makes a new spirit quite different from the weak-casting incident.

Let's hear from the readers on machinery matters. This is a Farmers' Institute called to consider machines.

NOTE: Further information concerning any machinery mentioned in this article will be given on request. Or if you have any questions concerning the best implements for doing your work, tell us your requirements and conditions and we will help you.—EDITOR.

Finding the Job

And How It is Made Easy for Those Who Want Work on Farms

By JOHN COLEMAN

WHEN the Department of Labor is spoken of, the farmer usually thinks of it as a political sop to the labor unions. The Secretary of Labor, Mr. W. B. Wilson, is an old union-labor man. The Assistant Secretary of Labor, Mr. Louis F. Post, is a political radical whose activities have been along the line of land reform. The head of the Division of Information, of whose work we are now speaking, is that same T. V. Powderly who, as general master workman of the Knights of Labor, used to be denounced by Dana of the New York "Sun" as a very undesirable citizen from the capitalists' viewpoint.

And yet this same Department of Labor is going about it in a very elaborate way to furnish hands for farmers this year, and in future years. Better yet, it seems to be getting its feet on the ground and working in practical and sensible ways.

Ye who have seen your crops go unharvested while idle men walked the streets of cities a few hours' ride away will be interested in this matter. For the farmer is the man who sends out every year, and sometimes several times a year, the Macedonian wail, "Come over and help us!"

Not that it is any new thing for the United States Government, through the Department of Labor, to send out farm hands. During the past four or five years it has sent out to us over fifty thousand of them. The trouble was that so many of them weren't any good.

Good Farm Hands Were Scarce

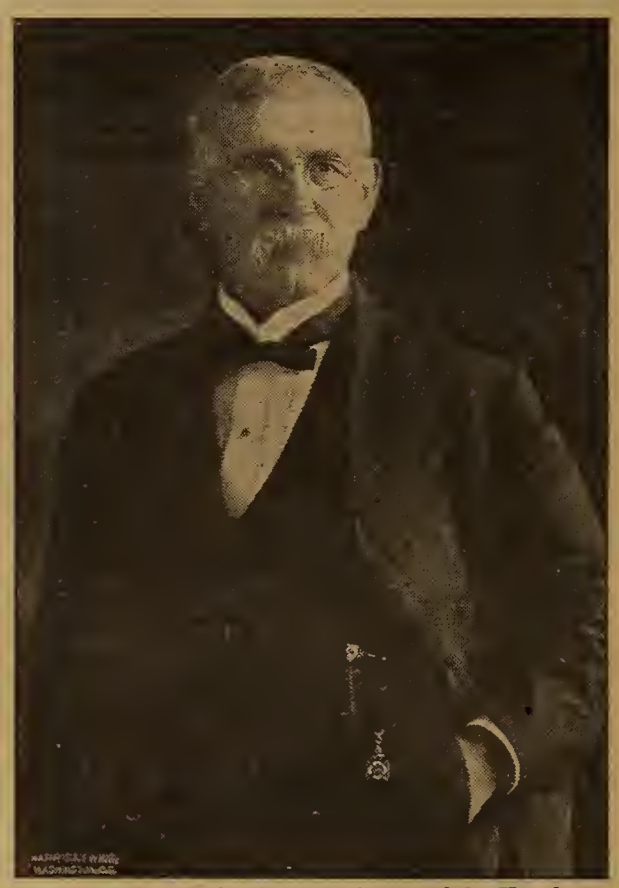
A good many of them must have been wished onto readers of FARM AND FIRESIDE. It would be interesting if those readers would write in and tell us what sort of hands they made.

Some of them were good men, no doubt; and some may have been even good farm hands. The trouble has been that the average man out of work has been all too likely to say in a most optimistic way when asked what he could do: "Who, me? I can do anything!" That's the American way. We have a fool's aphorism which runs, "I'll try anything once!" A good many of the fifty thousand above referred to acted on this maxim, and tried farming once, and in so doing tried the farmer to whom their services were offered—tried him sorely.

Now, however, says Mr. Powderly, the work is being placed on a different basis. Eighteen offices of the Division of Information of the Department of Labor have been opened, and numerous sub-offices. These zone offices are at Boston, New York, Philadelphia, Baltimore; Norfolk, Virginia; Jacksonville, Florida; New Orleans, Galveston, Cleveland, Chicago, Minneapolis, St. Louis, Denver, Helena, Montana, Seattle, Portland, San Francisco, and Los Angeles. The sub-offices are in general wherever there is an immigration officer, for this Division of Information is a division of the Bureau of Immigration of the Department of Labor.

This zone system has the advantage of covering pretty well the whole country; but it alone would not insure the farmer against the lummoxes, incompetents, and misfits who do more harm than good. Until this worse than Egyptian plague is averted from us, we shall not care to take hands from the Department of Labor. This is written to inform you, Mr. Farmer, as to how the men are examined now before they are sent out. There is a story connected with this.

In the Barge Office of the distribution branch of this service in New York City is a man named Cannon L. Green, who may possibly turn out to be the most genuine farmers' friend in the country. As an inspector in charge of this distribution of labor work, Mr. Green felt that the system of sending out these "I'll-try anything-once" boys was unfair to the farmer and unfair to the men sent out. Moreover, he, Mr. Green, did not feel competent to select a good farm hand for anyone. A man who knows nothing about automobiles is a poor man to select chauffeurs. A person who has



One-time general master workman of the Knights of Labor. Now he is bringing laborers who need work to the farms where work is to be done

never seen a ship is not competent to select a crew for one. Mr. Green had seen farms, but he did not feel that he knew enough about farming to enable him to select a crew for a farm. He was too much at the mercy of the fellow who wanted a job. He might ask a man if he was an experienced farm laborer, and if the chap said, "Sure!"—as most of them did—Mr. Green was unable to apply any acid test to determine whether there was in the answer the gold of truth or just plain brass.

A Man Who Wanted to Learn How

So Mr. Green went out and became a farm hand. He worked in dairies and learned to milk and clean stables and groom cows. He worked on grain farms and found out what sort of callouses are made by the fork handle. He studied not only farm work, but farmers and their families. Then he went back to the Barge Office and established the system of examinations which is in process of adoption in all the eighteen zone offices.

This system is not in complete operation save in a few of these offices, but it is coming into use just as fast as the inspectors can work it out and install it.

A man comes into Mr. Green's office seeking work. "What is your trade?" he is asked. "Machinist," "Let me look at your hand, please." He holds out his right hand. The inspector examines it. "Now the left," says the inspector. "You haven't worked at the machinist's trade very lately?" "No." "Not for a year, have you?" "No, I haven't; but I'm a machinist, all right." He knows that this inspector can almost tell the subject's trade by the appearance of his hands.

"How would you like a job on a farm?" "Lead me to it!" "Know anything about farming?" "Sure! I was raised on a farm." "Where?" "In Kansas." "All right! Good State, Kansas, and a lot of good farms there. When did you leave the farm." "When I was eight years old." "You hadn't milked many cows, or filled many silos at the age of eight, I presume?" "N-n-no! But I saw everything done, and I can do anything, Mister!"

"Ever do any milking?" "Sure!" "Well, how do you milk?" "Why, you take a stool and sit down by the cow and pull her teats." "Any particular way to pull them?" "Why, yes, there's a little trick to it." "Do you sit at the right or the left side of the cow? Do you milk with both hands or with one? What is stripping a cow? Make the motion of milking. Make the motion of stripping."

How to Tell if a Man Has Ever Milked

By this time Mr. Green has found out whether or not this man has ever milked. Some of them say they can't show how the hands move in milking unless they have the cow's teat to demonstrate with, and so, Mr. Powderly says, they mean to fix up a rubber teat for this purpose.

Don't laugh! This is mighty practical work. Next to taking a man out on the farm and giving him an actual test, such an examination is the best protection for the farmer against imitation help of which I am able to think. A hard-headed and hard-handed old farmer is not often fooled on a man with whom he has a chance to talk. These Department of Labor inspectors are trying to give the man a good deal the sort of examination this farmer would give him, only more exhaustive. I wouldn't have the nerve to put a man through all the course of sprouts developed in these offices.

These officers soon become skilled detectives. They detect usefulness, however, instead of crime, and they try to land men in jobs for which they are fitted instead of in jail. I myself prefer them to Sherlock Holmes or William J. Burns.

I have sketched the examination for the man for whom a job on a dairy farm is in contemplation, but an equally thorough examination is given applicants for positions with truck gardeners, orchardists, stock farmers, and general farmers. Not all the men sent out will be fitted for the job, but I feel sure that this will not be the fault of the inspectors. I think they are working on sensible and practical lines. When they get this system in full operation, all over the country, it seems as if it must be of much benefit to both the unemployed and the farmers.

There's an education in the lot of a farm hand on the right sort of farm. I wish Mr. Powderly's men could give to every man sent out, and to every farmer supplied with a hand, the following rules, which are printed and circulated among the hands on a fine 200-acre farm in Wisconsin. The name of the farm is Tarpleywick.

Labor at Tarpleywick

1. Intelligent, skilled, sober, careful, honest, and industrious men subject to reasonable control are needed in the operation of this farm.
2. The reading of books and papers is encouraged.
3. Especial attention will be given to the improvement of the skill of the workmen.
4. Men are not regularly employed who use liquor or tobacco in any form. The use of either will subject the workman to discharge at the option of the employer.
5. Matches are not to be lighted in any of the barns. Lanterns may be lighted in the washroom or in the milk-house. Lanterns must never be set down, but hung overhead when not in the hand.
6. Honest men only—men who are honest in words and in actions—are wanted. Frankness in reporting mistakes made is essential. A hidden mistake grows into trouble; an acknowledged mistake may be made right and forgotten.
7. Industrious men only, men with the "work habit," who are happier working than loafing, will be kept on this farm.
8. Term of employment is [CONTINUED ON PAGE 12]

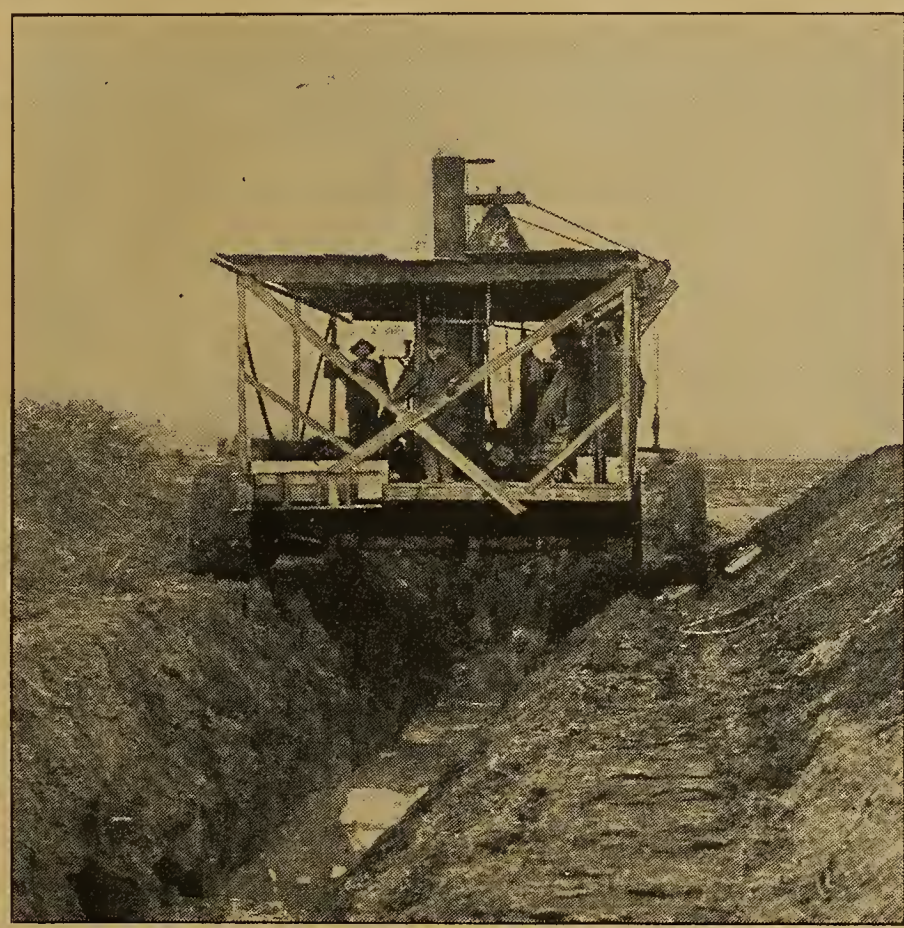
Field, Forest, and Orchard

Many Interesting Farm Activities as Shown by the Camera

One man, a tractor, and five disks can do a lot of work in a day in an eastern Colorado field. Large acreages can be handled successfully in no other way, because the planting season is short, and many acres have to be prepared for planting every day

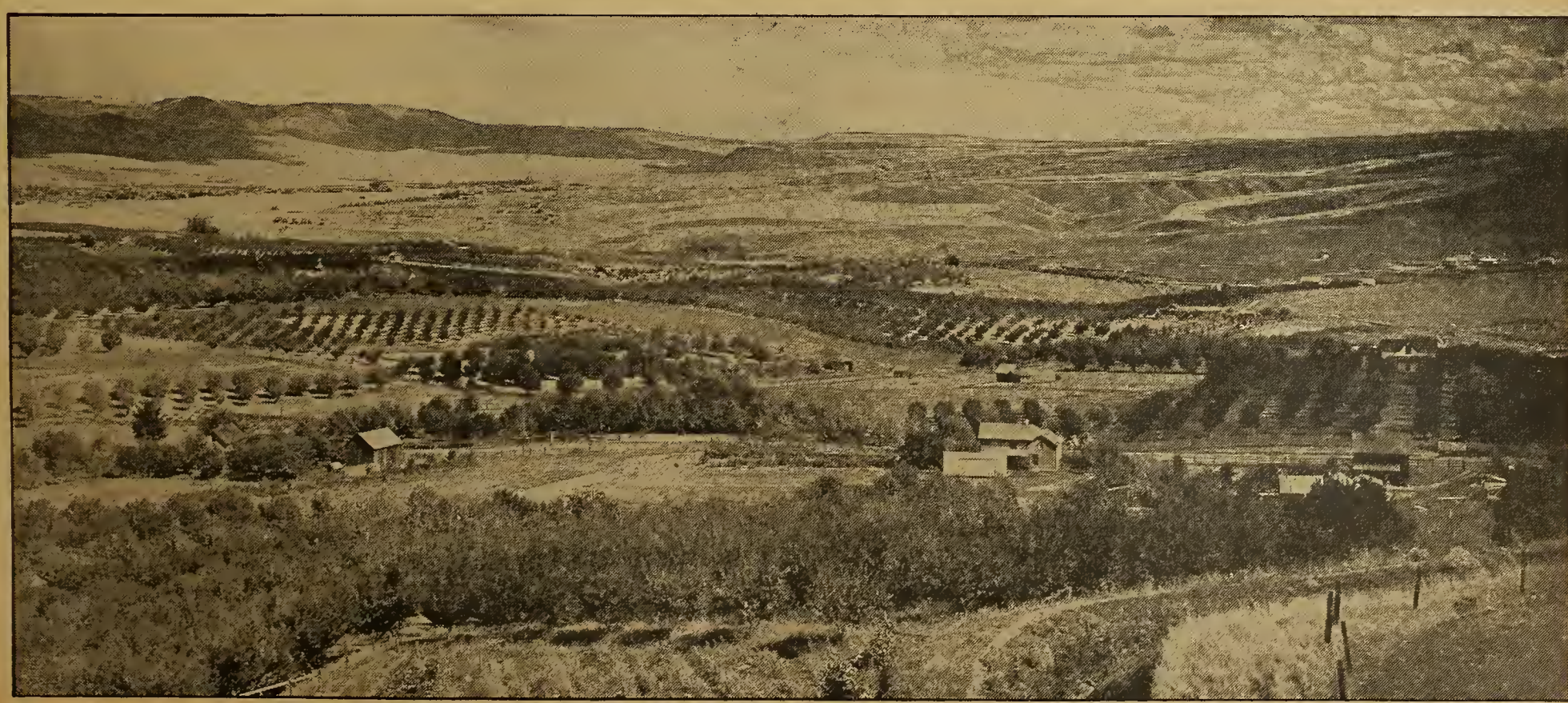
Two men were injured severely, and a threshing machine and a tractor were damaged several hundred dollars, when a cheap and poorly constructed bridge broke down in Madison County, Iowa. The men and the owners of the wrecked machines recovered damages from the county

The vigorous growth a 15-year-old alfalfa plant can make is shown by the number, the size, and the length of the roots of the plant



A ditching machine makes easy the irrigation of the farm lands in the arid sections of the West. The soil taken from the ditch by the machine is elevated, and dumped to either side. Planks are placed under the wheels of the machine to prevent them from slipping

This catalpa grove, 27 years old, is worth $450 the acre. The ground overflows, and is useless for farm crops. The farmer holds a 20-foot pole



The beauty and the grandeur of the orchard district of the Clearwater country near Lewistown, Idaho, do not excel the quality of the fruit, nor overshadow the amount of the product grown. Marketing the fruits successfully has contributed greatly to the wealth of the district. Many of the fruit farms are small. The orchards are well kept

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"We Hereby Guarantee"

Some Say It's an Empty Phrase; Others That It Really Protects

By B. D. STOCKWELL

"BUSINESS is nothing but a polite bunco scheme, and guarantees are a part of it." That's what one man said. Then I asked him if he had ever been "stung" by a guarantee. He replied that he had not, but he knew of people who had.

Below is the guarantee of one manufacturing concern:

> Every drill, corn planter, corn drill, wheelbarrow, and broadcast lime and fertilizer sower is guaranteed to be as represented, and to do the work claimed for it, when operated according to directions.
>
> We guarantee all castings, and will replace same without charge, *any time*, when proven defective.
>
> Disk bearings are warranted not to wear out. We agree to furnish new ones free should they ever wear out.

That is a good guarantee, and the company is standing back of it. However, it doesn't guarantee the purchaser against his own bad judgment in making a selection. He may choose a machine never intended to work under his conditions. Few guarantees cover such errors. The machines in question are sold through dealers, and the buyer has a chance to examine what he is buying to determine whether it will work on his farm.

A company making steel stump pullers guarantees to replace free of charge "any casting that breaks (flaw or no flaw) inside of one year from date of shipment," also "any casting that breaks in five years on account of defective material." Considering the hard usage such machines must stand, that is also a good guarantee.

This concern also makes a wagon scale that is sold on thirty days' free trial, and under a guarantee for ten years to give satisfaction or you get your money back. Notice that the company gives its scales a much stronger and more liberal guarantee than its stump pullers. Naturally every commodity takes a different sort of business handling.

How Silos Are Guaranteed

Let's see about silos. One company guarantees its metal silos:

> To be air-tight, and to properly preserve the silage, if erected according to instruction.
>
> Not to blow down or collapse.
>
> To be fire-proof and storm-proof.
>
> Not to corrode or rust, and not to be affected by the acid in the silage.
>
> To be the most permanent, most practical, and most substantial silo that can be erected.

It is an excellent guarantee, but the last clause of it would be hard to prove, and may not be of much value to most buyers.

Another company guarantees its wood-stave silos to be exactly as represented, to arrive in first-class condition, not to infringe on any patent, and also "that after the shipment has been examined, if the silo does not come up to the purchaser's expectations in every respect, by notifying us in writing, it can be shipped back at our expense and we will promptly return the money paid for the silo, and any freight charges that may have been paid by the purchaser."

It is a good guarantee and protects against bad judgment in selection, but gives no opportunity fully to test the silo.

Still another concern puts out a silo made of vitrified clay blocks. This silo, when erected as specified, is "guaranteed against any and all loss of damage which may be sustained by the purchaser due to the cracking or breaking of said silo as the result of ensilage pressure or from said silo being blown down or damaged by winds."

That guarantee is unusually good because it insures practical service while you are testing it. It is also conservative and businesslike.

The guarantees of most first-class business houses are becoming more liberal each year. In 1912 the guarantee of one great mail-order house required that goods had to be returned within ten days except that certain goods which required a longer time to be judged might be kept thirty days. The guarantee started out by saying, "We guarantee absolute satisfaction," but down near the end was the qualifying remark, "We will always try our best to make a satisfactory adjustment of a claim." Then below was a list of five classes of goods that "we cannot take back," among which were goods made on special order, books, music, rubber goods, and millwork "when sent as specified."

Such requirements are of course reasonable. But the same house by its present guarantee has no strings or qualifications of any kind. It simply says:

> We guarantee absolute satisfaction. Promptly return to us, at our expense, any unsatisfactory purchase. We will then either exchange it for what you want or return the full amount you have paid, together with the transportation charges."

That's all there is to it. It's only a third as long as the other, more definite, and therefore better for the purchaser.

Some Are Almost Boasts

Occasionally a guarantee is a direct challenge to competition, and aims at the double purpose of creating confidence and giving the purchaser protection. A company which makes a specialty of grinding mills guarantees the plates of its mills "to grind twice as many bushels, on each set of plates, as can be ground on any other set of plates of any other make, no matter whose they are." Such a claim would be put down as an empty boast if the concern were not absolutely reliable and high-class in every way. But such comparisons are difficult to prove.

The cream-separator business has seen some of the fiercest competition of any line of farm equipment. Naturally manufacturers have been obliged to become very liberal. And the very nature of the machine demands a thorough trial for it, because a casual examination tells very little about a separator. One company frankly says:

> We know that you are not an expert mechanic, and you have not been building machines all your life, and we do not expect that by merely looking at a cream separator you can tell whether it is going to suit you or not. It would not be fair to ask you to buy your separator from us and then keep it just because we say that it is a good separator and well worth the money, and we will not ask you to do so.
>
> We therefore make you this free-trial and freight-paid offer which we have always made to every purchaser in the past, and will continue to do in the future."

The free trial referred to is for a period of thirty days. While that gives a purchaser an excellent chance to study and test the separator, it does not furnish a thorough test of durability. But of course no concern could do business if it had to wait for collection until its machines were worn out. The above seems to go as far as a business house can safely go, and is typical of the way cream separators are now sold.

The question of guaranteeing seeds, nursery stock, and other products difficult to identify after they have changed hands is one of the hardest for the business man to handle so as to be fair to honest customers and yet not be imposed on. One seed company has this:

> We guarantee the quality of the seeds, plants, bulbs, and potatoes we send out to the extent that should they not prove as represented we will refill the order or return the money. But we give no further warranty, expressed or implied, as to description, quality, productiveness, or any other matter, and will not be responsible for the crop. We guarantee everything we send out to arrive in good order. If potatoes freeze on the road, we will refill the order if the time of shipping was left to our discretion.

The above is about as far as seed companies have gone in the matter of guarantees. One very reliable company gives no guarantee whatever, and plainly says so. In regard to potatoes it says:

> When shipped by freight we deliver potatoes in good condition into the hands of transportation companies; our responsibility ceases there. Consignee then assumes all risk of heating, freezing, and delays.

In other words, the buyer must take his chances, yet that company handles excellent seed.

What Incubators Will Do

Incubator guarantees are a curious lot. The manager of one incubator company prints the following in his catalogue:

> I hereby guarantee this incubator and brooder to be as represented in this catalogue or the machine can be returned and the purchase price will be refunded.

Then he says:

> The above guarantee is as brief and to the point as my knowledge of plain English will admit. That it is valid and will hold water, I will leave to yourself or you can submit it to any attorney in the land. Its briefness is what makes it valid, no fancy manipulation of words, accents, or phrases. Its whole intent and meaning is to say that I wrote this catalogue and hold myself responsible for every representation herein made.

This is not the only incubator company giving such a guarantee. Such forms are good because they help to keep catalogues free from exaggeration.

The incubator business seems to lean a little toward very strong claims. For example, one prominent manufacturer guarantees that his incubator "will hatch more successfully than any other machine made." Another warrants "that it will hatch as large a per cent of the fresh and well-fertilized eggs entrusted to its care . . . as any incubator made." And still another says theirs will "hatch better than hens average, and a great deal better than other incubators actually do."

Such claims are hard to prove and in themselves do not seem to give much protection. A guarantee that an incubator will "run itself" appears contrary to experience. But when a manufacturer agrees to "keep up all repairs free for ten years," except breakage by pure carelessness, something definite is promised.

When suit is brought for the fulfillment of a guarantee, the person suing needs evidence. Proof of faulty material or refusal of the manufacturer to give promised service is good evidence. Generalities are not. So a guarantee that's worth anything must be in terms of things that you can prove.

For instance, here is an excellent one backed by a Pennsylvania concern:

> This is to certify that we guarantee every article to be exactly as represented, or we will return your purchase money and pay freight both ways. As a protection to persons who may desire to purchase anything in our line, we have given the Belleville National Bank of Belleville, Pennsylvania, a legally executed bond in the sum of $10,000.00. This is to protect our customers and to give them every assurance in our power that we will give you a square deal.

That statement is signed by the treasurer of the company, and with it appears a letter signed by the cashier of the bank, who certifies that the bond has been deposited.

Buyers Want to Feel Safe

A company selling paint gives a convincing guarantee of its quality, and then as further protection adds:

> We guarantee *to take back* any shipment of paint at our expense after *one fifth* of the order has been used, and to refund all the purchase money, including all freight charges both ways, to anyone who finds our paint misrepresented or inferior to the high-priced paints.

That guarantee helps to inspire confidence.

A prominent manufacturing company guarantees one of its implements as long as it "remains in the ownership of the original purchaser, or is not rented or loaned."

That is rather unusual, but appears to be a reasonable safeguard.

It's a good plan in reading a guarantee to see whether it fully covers all points in which you want protection. Some guarantees sound convincing but really promise very little.

If you want a free trial or shipment on approval, you can sometimes get such a privilege by asking for it. But it is unwise to assume any more than is actually specified.

Modern business is built up largely on guarantees. People don't trade with folks they can't trust. That business is getting freer from traps and hooks is due largely to guarantees, some of which assure you of satisfaction or your money back. Others promise long-continued service and free repairs, while still others give a free trial till you make up your mind whether you want to buy. The idea is to help you get your full money's worth, and to make you feel safe in buying an article on which you are not fully posted but which you want if it suits you.

OUR advice last fall against white grubs was to plow industriously and let the frost and birds kill the pests in all regions which were troubled with many June beetles in the summer. This advice holds good any year, especially as to fields in grass, grain, or sod.

W

This Jackson County, Illinois, pasture was in cultivation but a few years ago, according to the owner, who is standing in one of the many ditches

Corn was grown two years ago in this abandoned field. The few remaining cornstalks show the former productiveness of the field

Dumping Soil Into the Sea

How Middle West Farms Lose Eleven Tons of Earth a Second

By A. F. GUSTAFSON

ELEVEN tons of soil is carried into the Gulf of Mexico every second by the Mississippi River from its immense drainage district. This material amounts to 346 million tons every year, and is equal to the surface soil, 6⅔ inches deep, of 346,000 acres. The annual loss by washing for the United States is equal to the surface soil of 900,000 acres.

If the slope of land is uniform the rainfall drains off as a sheet and carries much soil with it. This is called sheet washing. Low places, dead furrows, mole runs, between corn ridges, and wheel tracks, where the water may collect and drain off in larger amounts, cause soil particles to wash away from these places more than others, and holes and gullies are formed.

The water not absorbed by the soil—the run-off water—determines the rapidity of the washing. Newell of the United States Geological Survey estimates the amount of run-off water runs as high as one half of the rainfall where the land is hilly. Where the land is flat to gently rolling, the run-off water does not exceed one fourth of the rainfall.

The amount of soil washed away depends on the amount of rain falling in a single shower, and the topography of the land—flat, rolling, or hilly—and the character and condition of the soil.

A fill sixty feet wide and two feet thick at the deepest point was made in three years' time in a hollow in St. Clair County, Illinois, from the soil carried by a small stream, which drained a half section of gently rolling land. A picket fence built across the hollow held much trash. This checked the current of the stream and caused the soil particles to settle.

Nearly 700 acres of a lake near East St. Louis, Illinois, has been filled to a depth of ten to thirty feet by soil deposited by Prairie du Pont Creek. One hundred and twenty acres of the newly formed land was under cultivation in 1906.

Cover Crops Stop Washing

In five years fine sandy silt loam from four to six feet deep was deposited on a farm in the Mississippi bottom in Pike County, Illinois, across from Hannibal, Missouri, as a result of a farmer's cutting a levee holding a creek in its channel, and permitting the water to spread over his land.

Many thousand acres of land have been abandoned by farmers in the hilly sections of Illinois, Iowa, Indiana, Ohio, Missouri, Kentucky, Tennessee, Georgia, Alabama, and other hilly States because the slopes have become washed so badly. These lands will be ruined permanently if they are not reclaimed soon.

The formation of gullies can be prevented if the surface of the soil is kept smooth. Then water will not have a chance to collect, and increase the amount of the soil washed. Keeping the soil covered with a crop protects the soil from washing.

Rye or vetch may be sown as a winter cover crop. Both grow late in the fall, live through the winter, and begin growth early in the spring. The roots of the rye become interwoven. This holds the soil particles together, and prevents sheet washing.

Loose soil absorbs more water than a compact soil. Ten inches of loose soil will absorb two inches of rainfall. Eight inches of loose silt-loam soil will absorb nearly a half inch more water than the same amount of compact soil.

A slow rain of two inches will be absorbed by a loose surface soil ten inches deep; but if the surface soil is compact much of the rain will be lost as run-off. And it will carry soil with it. This is the reason given for plowing hilly land seven to ten inches deep.

Water collects in wheel tracks which run up and down a slope, and forms gullies. Mole and other animal runs need attention to prevent the formation of gullies.

Straw, weeds, coarse manure, brush, and other such materials, or a mixture of them, if placed in gullies, will stop the washing away of the soil. Neglected gullies grow rapidly.

Fill the Ditches With Straw

A ditch on one of the experimental fields of the University of Illinois was filled with straw in October, 1914. Stakes slanting toward the slope of the hill were driven through the straw into the bottom of the ditch. A heavy rain fell within a few days. Only a little of the straw was carried away by the water. In many places the straw was covered with soil. This method is successfully used by many farmers in Illinois. In this way a ditch may be filled completely.

In one instance a farmer stacked straw in a big gully just above his line fence. This held the soil so the ditch filled in two years. An earth dam or concrete wall must be placed below to hold permanently the material temporarily held by the straw. In a field just below the stack was a gully, eight to ten feet deep and ten to fifteen feet wide, which had been neglected by a careless tenant. The present owner has filled the ditch with straw on the bottom, covered with hedge and brush from an old orchard. As the run-off from several cornfields passes through this ditch it is filling rapidly.

At a sharp bend in a ditch along a road old crossties from the railroad are set on end around the outside of the curve. These prevent the current from eating away the road. In some places willows are planted and concrete walls constructed to prevent washing.

Many earth dams are used to stop the washing in gullies. When a concrete or an earth dam is used, it is advisable to place a tile drain perpendicularly a few feet inside the wall or dam. This prevents the water from running over an earth dam, which would cut out the dam within a short time.

With either a concrete wall or an earth dam the pond formed will be filled with soil and reclaimed to cultivation. It is desirable to get reclaimed ditches covered with a good stiff sod of a native grass. Blue grass is desirable grass for such a purpose in the northern parts of the United States, and redtop for the acid soils of the southern part of the United States.

Sweet clover is a valuable help in filling gullies where limestone is not far beneath the surface of the soil or the land has been limed. It should be inoculated and sown in the usual way, and encouraged to produce seed so as to keep the gullies and adjoining slopes covered with clover plants. The sweet clover will hold the sediment, fill the gullies, and check sheet washing on smooth slopes. There is no objection to pasturing sweet clover during the early part of the season, but the stock should be removed early enough for the plant to produce its normal seed crop. This plant prepares the soil for the growth of native grasses which come in of their own accord, and further help in holding the soil together.

Grass keeps the water from flowing rapidly, and thus catches and holds the sediment. When the low places on the slopes are in grass, they should not be plowed when the rest of the field is put into corn. In the cornfields in the rolling section of Jo Daviess County, Illinois, strips of blue-grass sod occupying the position where gullies once were are a common sight. When farms having much soil of this character are rented, the lease contains a clause expressly stating that these strips of sod must not be plowed.

Plow Around the Slope

Several years ago black locusts were planted in gullies in Johnson County. These gullies are nearly filled now with sediment, and the trees are valuable for posts. That the locust is a legume is common knowledge. This explains its excellent growth in gullies and on badly washed slopes where little plant food is available. This method of reclamation is especially useful in permanent pastures or woodlots.

In fields under cultivation where large gullies have formed, it is desirable to fill them by plowing the sides and scraping in the surface soil from between them, so as to make the slope smooth.

Rolling land should be cultivated carefully. Plowing should be done around the slope. The reversible moldboard plow and reversible disk plow are both satisfactory. With these implements one can plow across the slope, turn around, and plow back in the same furrow, so there need be no dead furrows in which water can collect and gullies begin.

Corn, oats, wheat, peas, and beans should be planted on the same lines as the plowing. Wheat so seeded helps prevent winter washing, especially if the straw from the previous crop is scattered over the wheat late in the fall. It is particularly good practice to plant corn in this way so all the cultivation may be around the slopes. After husking it is well to harrow or drag down the stalks. These help cover and shade the ground so there is less thawing, consequently there is less washing during the winter thaws and in early spring. As much stubble of oats, wheat, peas, and beans as possible should be left for winter and spring protection. These add valuable organic matter and help in the same way as do cornstalks.

Where the rain falls in heavy showers it is necessary to terrace the slopes. In this way much [CONTINUED ON PAGE 9]

Concrete walls are used often to aid in the filling and reclamation of small ravines

It is a difficult task to prevent the formation of gullies along a hill road in sandy loam soil

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Poultry-Raising

Getting the Market

By Margaret H. Morton

FOR twelve years I have practiced storing my eggs produced dnring the season of low prices to sell when prices are highest, which is just before and soon after the holidays.

During this extended period I have found that eggs stored in water-glass solution in April, May, and June are perfectly sound and salable the following December, January, and February, and will then bring on the market from two to three times as much money as when sold during the spring egg glut.

I store my eggs in large stoneware crocks in a cellar or other cool place where the temperature is uniform, and use a solution in which to pack the eggs by diluting one part of silicate of soda (water glass) with twelve parts of pure water. The water is boiled and then allowed to cool before mixing in the water glass.

The water glass cost me about 45 to 50 ceuts per gallon when purchased from poultry-supply or mail-order houses. This is at the rate of about one cent a dozen for the eggs thus packed.

I find that there is no risk whatever in storing eggs iu this way, provided nothing but clean-shelled eggs, free from cracks, are packed the same day they are laid.

I sell my stored eggs to both retail grocers and commission houses for from three to five cents a dozeu below the prices paid for strictly fresh eggs.

I find it au excellent plan to visit the market to which I ship my produce, and become personally acquainted with the dealers to whom I wish to sell my eggs and other farm produce.

The Broodies at Work

By Mrs. E. C. Gabriel

LAST spring I wanted to raise a couple hundred chicks with as little work as possible. I fouud I would have to rely upon outside resources, as our hens were non-sitters. Incubators are all right, but I wanted hens to relieve me of the care of the chicks after they were hatched.

I began making inquiries in early April, as I wished to get the hens all established within a few days' time and make the hatchiug period as short as possible. Then by doubling up the chicks I would use fewer coops and make the feeding easier.

I succeeded in locating 19 sitting hens within a radius of four miles, and got them all settled to work within nine or teu days. Some I bought. I exchanged laying hens for others. The remaining hens I rented.

Profiting by former experience in haudling sitting hens, I found it necessary to return only one of the 19 hens.

Duriug the period of incubation a hen needs a quiet place where the flock cannot reach her, and a subdued light is best.

Before bringing home the hens everything was made ready for their comfort. Nests of fresh straw were arranged in boxes of a size that a potato crate would cover. Some were set in the crates and an empty crate was placed beside each nest. The eggs were placed in the nests. There was plenty of fresh water and grain ou the floor.

Everything being ready, I went for the hens after supper and brought the broody hens home in bran sacks in the carriage. The hens were placed on the nests as quietly as possible. The empty potato crates were adjusted over them and left undisturbed until dark the next night, when the crates were carefully removed.

By the second morning the hens were so well established they were very willing to go back on their nests after feeding.

It is well not to have too many sitting hens penned together, as sometimes they will get confused and go on the wrong nest. Four or five are better than more. They can be established in groups in the different farm buildings.

Five or six days before hatching, each hen is thoroughly dusted at night with insect powder.

As soon as a good share of the eggs in a nest are pipped, I find it a good plan to gently shake the rest to see whether they sound juicy or solid. The juicy eggs are removed.

When setting the 19 hens, I also sent 275 eggs to incubators so as to have the chicks all hatch together. I received 58 chicks. As I had 171 chicks in all, it is easy to see that my 16 hens (I had set three on turkey eggs) did satisfactory work.

When the incubator chicks came they were placed under hens still on the nests, and left to rest a couple of hours. I then transferred them to the coops before feeding.

For a number of years I have used the same kind of chick feed. I rarely lose a chick from sickness, and they make a very rapid growth. This feed consists of coarse corn meal and oat flake, half and half, slightly moisteued with milk. I feed on shingles or boards. The hens are given wheat, which the little chicks soon learn to eat also.

For the first two weeks the chicks are fed five times a day, and later, four times. After about three weeks the amount of oat flake is reduced to about one fourth the bulk of the meal. On damp mornings, from the first, a scant sprinkling of cayenne pepper is used.

I buy the oat flake in bulk and get it much cheaper. This, with corn meal, whole wheat, milk, oyster shell, coal ashes, and plenty of green stuff, makes up a combination that produces a very rapid growth.

Every two or three days, at first, hard-boiled eggs are given, chopped with the shells and salted to make them palatable.

Table scraps are saved until there are enough for a feeding for the whole flock, when they are scattered over the park, thus insuring each chick a share.

Plenty of good fresh water is always necessary in addition to milk, and should be ready as soon as they have finished feeding. That is the time they want it.

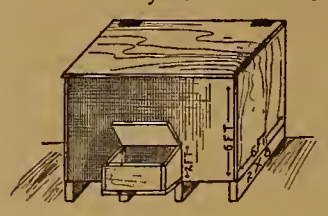
When the chicks are about a week old the hens are given a dusting at night with insect powder, and this is kept up at intervals of a week until the hens are taken away. I have been warned repeatedly that this would kill the chicks, but I have never found any dead ones.

CO-OPERATIVE creameries are often utilized as egg-gathering and egg-distributing agencies. Farmers' Bulletin No. 656, U. S. D. A., tells the story.

AN IMPLEMENT dealers' association in Iowa has passed a resolution that hereafter they will not sell machinery on a longer time than six months.

Rat-Proof, But Why?

By F. M. Van Deusen



FOR over thirty years I have been building rat-proof feed boxes and bins holding from 15 to 1,500 bushels. They are all raised from the floor simply by 2x6 or 2x8 planks placed on edge. A cat can go underneath.

The extension shown in the sketch helps in getting the grain out of the large bin, but has nothing to do with its rat-proof quality because I have never had a mouse or a rat in any of the bins whether made with the extension or not.

A rat caunot gnaw unless he is down on all four feet, but they never have tried to gnaw down through the top. I use no wire or tin, aud why rats do not gnaw into these bins I never could figure out. They simply don't, that's all. The bins cost only a little more than those built right on the floor—and think of what they save!

Fighting Gapes

Query: Can you tell me what will cure gapes in chickens; or, better still, something that will prevent? I have tried several so-called remedies, but they did not seem to have any effect. I have been a subscriber to FARM AND FIRESIDE for years, and no doubt you have published information on this subject, but I do not remember seeing it. MISS A. L., Pennsylvania.

Answer: Gapes are caused by the gape worms which live from year to year in the soil of the ground where the infected chickens have been kept. The best preventive measure is to move the runs to ground that has not been so occupied for two or three years.

If the chickens are kept until they are six weeks old on ground that is free from the worms, the trouble will be over for that year. A good plan is to move the entire chicken plant to new ground and devote the old ground to vegetables, grain, or grass.

About the only remedy for the infested chick is to extract the gape worms from its throat with a looped horsehair or a very fine wire, like a strand of picture-hanging wire. The hair or wire should be disinfected in a solution of a tablespoonful of creolin in a pint of cold water each time before inserting it in the windpipe. Affected chicks should be separated from the well ones, and the quarters where they are kept should be sprinkled daily with slaked lime. Put a few crystals of permanganate of potash in the drinking water—enough to turu it piukish. By this means you may be able to save a good many of your chicks, but an ounce of prevention is worth many pounds of cure.

We have treated this matter frequently in the paper. If subscribers will prepare a card index of the articles in which they are most interested, they will fiud it convenient in referring to their files. Every year we furnish a complete index to subscribers who desire it. We find this index very useful ourselves and commend it to subscribers.

Ten-Second Topics

A LITTER carrier is a means by which a good deal of the labor of cleaning the stables is done once for all. Why not put in a little expense in money, and a day's time, to make all the days of the future longer? And if the manure is carried into a properly built pit the arrangement pays in money as well as in time and the triumphaut feeling one has in mastering a situation.

"WINTERGREEN" oil is made from the twigs of the sweet birch tree.

DENMARK has more cow-testing associations than the United States, and it is about the size of Massachusetts.

KEEP a lantern burning near the henhouse at night. It will keep away chicken thieves—both quadrupedal and bipedal.

BARRON, WISCONSIN, has the largest co-operative creamery in the world. Last year it made considerably over a milliou pounds of butter.

WHEN taking the farm inventory, include all "bills payable" and "bills receivable" if you wish to know the exact condition of your assets.

TO CLEAR a chimney of soot, hang a bag of sand or stones or a bunch of chains to a rope and haul it up and down the flue until all the soot has been knocked or scraped off.

DO NOT allow the dollar to look bigger than it really is, nor the dimes to appear smaller than they really are. There is greater good in a dime rightly spent than in a dollar poorly spent.

THE price of milk in Milwaukee, Wisconsin, has been voluntarily lowered by the Gridley Dairy Company, one of the largest dealers, from seven to six cents. Overproduction is given as the reason.

A PUMPING plant for irrigation in Egypt makes its steam with the focused rays of the sun. The sun-power plant costs less to build in that locality than a coal-burning plant. The engine is 50-horsepower capacity.

IT IS announced that the Germans have perfected a method of making a good substitute for butter from sunflower seeds. All available ground about railway stations will be planted to sunflowers for their seeds.

TUBERCULOSIS is not hereditary, but it is "catching." In a Minnesota case a woman married a consumptive man, and in twenty years eight members of her family became infected, and several died. This was not heredity, for her family was perfectly sound until the disease was brought in by an outsider.

IF THE milking machine is also installed, more years are added to life. Good equipment pays in cash returns, but it isn't fair to deprive one's self of things which make life better and brighter merely because the money returns cannot be reckoned to a cent. Life is worth more than money—to everybody but a miser.

SAYS Professor Newson of the Colorado Agricultural College: "The average person does not seem to realize how many good cattle die of foreign bodies such as nails and pieces of wire that pass from the second stomach forward into the heart sac." See that no nails or pieces of wire are in the feed. "It is not at all uncommon to find twenty-five or thirty nails in the stomach of a cow."

A NEW YORK man claims to have put the squash bugs out of business by giving them nice warm shingles to hide under at night. In the morning he picked up the shingles and scraped the bugs off into kerosene oil. Early morning, mind, before the sun was up. Ever try it? If not, do so, please, and report. This New Yorker says he sometimes got as many as four or five quarts of bugs of a cool morning—but it was a big and buggy squash patch.

W

Farm Notes

Homestead for Ten Cents

Miss Blue, the owner of this small homestead

MISS SERENA HELEN BLUE of Minnesota is the owner of the smallest government homestead. A few weeks ago she went to the U. S. Land Office at Cass Lake, Minnesota, and in return for 10 cents received a deed to her homestead, which is little less than a tenth of an acre in size.

It is a triangular point of land jutting into Turtle Lake, and measures 189 feet long by 38 feet wide in its widest part. To comply with the Homestead Law she built a log house and lived in it for seventeen months. The law required her to cultivate at least 218 square feet of the 3,484 square feet in her homestead, but instead she cultivated nearly half the area and raised tomatoes, cabbage, and clover.

Miss Blue is twenty-seven years old, and in a letter to FARM AND FIRESIDE says: "This fraction of land joins our farm here and, finding it was government land, I filed on it knowing that such a beautiful spot would make an ideal summer resort, although a small one. I feel sure that some day it will be a valuable piece of land, and I can realize as much from it by renting cottages as a good many do on a full quarter section. The point has a mineral spring and also trees, some of which are balsam, spruce, basswood, birch, and pine. There are numerous wild birds, including wild ducks, geese, partridge, grouse, loons, as well as song birds. The partridges come to my cabin door.

"The lake is the beginning of a chain of lakes through which you can go by canoe and finally reach the Mississippi River, and if you care to you can go down to the Gulf of Mexico."

The entire homestead—a triangular point of land jutting out into the water

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LAST year's national bird census gives about 1,200 birds to the square mile, or nearly two an acre. About one tenth of all the birds were English sparrows.

IN MONTANA it was found that horses do better on two thirds as much hay as they will eat than on a "full feed." To each hundred pounds of horse, three quarters of a pound of hay a day and half a pound of grain were found enough to carry horses through the winter when doing light work. Of course a man must make allowances for the quality of both hay and grain.

An Auto Saves Time

By James A. King

THE average man first asks himself whether he can afford to own an automobile. He gives little or no thought to the question of whether he can afford to be without it. Also he gives less thought to whether he can afford to run it after he gets it than to sparing the money with which to buy it.

The cost of operating a low-cost car, such as the average man buys, amounts in the end to more than the original cost of the car.

No one class of men has more real need for a car than does the farmer. To most farmers a car is an investment, to most other men it is a luxury—at least a point must be stretched to figure out how it is really and truly an investment.

The experiences of a business man living some distance from his place of business will be interesting here.

This car was a five-passenger touring car in the $1,500 class. It was driven an average of ten miles a day with three passengers. During the three years of use it went 8,700 miles. This man's records show the following items of cost for three years' operations:

	Total	Per Mi.
Gasoline, oil and grease	$145.00	$0.017
Casings and tubes	268.00	.031
Repairs and labor, including one painting and varnishing	293.00	.032
Depreciation in selling value	900.00	.103
Total cost		.183
Per passenger		.061

This car cost $1,500, and at the end of the three years sold for $600. The depreciation amounted to more than the first cost of some five-passenger cars. The repairs were made at commercial garages. This item of expense will be reduced to almost nothing by a farmer who cares for his own car. The labor charge at a garage is more than the cost of the repair part itself, rates ranging from 50 cents to $1 an hour. I have a friend whose garage bill for the repair of his car was $14.15. On investigation he found that the 15 cents was for a bolt and the $14 for labor!

But even at the figures shown in this man's tabulation of costs his traveling did not cost him as much as it would have cost to travel the same number of miles by buggy or wagon.

This man traveled an average distance of 10 miles a day. This required about half an hour for each of the three persons in the car. Whereas it would have required at least two hours a day to have made the same trip with a driving team, and three with a work team. Also it costs about 60 cents a day to feed a team of horses. So that by the time you figure in the time involved, and the costs of operation, the balance is in favor of the automobile—even when the cost per mile is as high as it is in this case.

Dumping Soil Into Sea

[CONTINUED FROM PAGE 7]

water is absorbed by the soil, and the rest flows slowly so there is little washing. Without terracing in such regions as central Georgia the run-off would find a low place down the slope. It would be very difficult then to prevent the formation of gullies. In some Southern States farmers consider proper terracing as essential to crop production as seeding itself. In many parts of Missouri, Illinois, Indiana, and Ohio terraces may be employed to excellent advantage.

A large part of rolling timber land is sour or acid. Applications of ground limestone will sweeten such soil. The limestone requirement of the rolling hill lands of southern Illinois is 2,100 pounds the acre. Limestone causes the fine soil particles to cling together, which prevents some washing; and it also sweetens the soil. Available calcium is thus furnished and legumes—clover, alfalfa, peas, beans, and vetch—grow much better and produce more hay. This may be returned as manure or plowed directly under.

Coarse unrotted stems of plants help hold the soil together, acting like hair in plaster. When rotted, organic matter has a granulating action very similar to that of limestone just described.

Rolling timber lands are very low in organic matter, and need addition of manure, legumes as green manure, and all cornstalks and weeds when not infested with insects, stubble, and straw.

To spread straw over the wheat late in fall is an excellent practice. It reduces sheet-washing by preventing thawing and by catching and holding solid material during thaws of winter and early spring.

Watchfulness and prompt filling of gullies is the motto of the farmer of hilly land.

Extra Wear Is Vulcanized Into Rubber Footwear By This New Process

The recent new sensational invention which has been named the Patent Pressure Process of the United States Rubber Company, makes rubber footwear give phenomenal wear.

Rubber footwear which has been vulcanized by this new process is different from other rubber footwear. This is what the new Patent Pressure Process does:

1st—It forces the rubber compound into the fabric in such a way as to give every boot or shoe the same strength as though made of one piece.

2nd—It toughens the rubber compound to a tremendous degree.

Your first pair of Patent Pressure Process boots or shoes will convince you that the new process is the greatest invention ever made by any manufacturer of rubber footwear.

Standard color black—also made red or white.

Nearly all reliable dealers sell United States Patent Pressure Process Heavy Service Rubber Footwear. If your dealer has none, write us telling what kind of boots you wear and we will see that you get supplied. Look for the United States Seal; insist upon it. It is only placed upon boots finished under this new extra-wear process.

United States Rubber Co., New York City

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HERBERT QUICK, - - - - - - - - Editor

June 5, 1915

A Great National Crisis

AS THIS is written our country stands in the shadow of the greatest crisis most of us have ever known. A German submarine has torpedoed and sunk an unarmed British merchant ship, the Lusitania, under such circumstances as to kill over a thousand unarmed people, among whom were more than a hundred American citizens.

Before this is read this crisis may have passed and our friendly relations restored. In that case we should all try to understand the situation which caused the danger. On the other hand, before this is read the matter may have developed from bad to worse. In such a case it becomes the duty of intelligent patriots to understand a continuing controversy with the greatest military power on earth. It is with the desire of helping our readers to understand it that this is written.

We often speak of the "law of nations." By this we mean certain usages which civilized nations have adopted in their dealings with each other in peace and war. By these rules, warfare has become less savage than formerly. Honorable soldiers have for ages considered themselves bound to observe these laws.

Law of Nations Broken

Both the Allies and the central empires, Germany and Austria-Hungary, have refused to abide by these laws. Great Britain and France have interfered with neutral commerce in a way which is not warranted by the law of nations. Our Government has protested without much effect.

Germany has violated the law of nations in her own way, Great Britain and France in their own way. Germany's way, so far as the present controversy is concerned, has been by unwarranted attacks on merchant vessels, both neutral and hostile.

Under the law of nations a merchant vessel is not to be sunk, nor her passengers and crew slaughtered or drowned or put in unnecessary peril. Such a vessel is no more to be attacked than peaceful, unarmed civilians on land.

An unarmed merchant vessel has a right to sail the seas in peace if she flies the flag of a neutral power. If she sails under the flag of one of the warring powers she still has the right to sail subject to the danger of being captured and carried into port by her enemies' ships as a prize. But her passengers and crew are not combatants, and are not to be killed, either by the sinking of the vessel under their feet or otherwise.

The Germans had a right to take the Lusitania as a prize because she flew the British flag. If they could not take her into port they had the right to sink her after looking out for the safety of the passengers and crew. That is as far as they had the right to go.

The violations of the law of nations by Great Britain and France relate to the stopping of ships and interfering with commerce. These violations have cost no American lives, and the allied powers accept the responsibility to pay damages.

The violations of the law of nations by Germany have cost many Americans their lives. They were committed after the Government of the United States had warned Germany that we should hold the German Government to a strict accountability if American lives were lost by such violations of the law of nations.

The controversy with Great Britain and France, therefore, is not so serious as that with Germany. In the case of the Gulflight, Germany sunk an American merchant vessel from the halyards of which an American flag six feet by ten was blowing out into the breeze in broad daylight. This outrage caused the deaths of two or three Americans. In the case of the British merchant ship, Falaba, an American citizen, Mr. Thrasher, was killed. In the case of the American ship Cushing, laden with oil bound for Holland, a neutral country, a German airship attempted to sink her with bombs, thus firing on the American flag flying in plain sight from her masthead.

Germany has expressed regret at the loss of American lives on the Lusitania, and has announced that she will not in the future sink neutral vessels unless by mistake, and that in such cases she will make all reparation in her power.

She has not yet promised that she will not torpedo and sink unarmed merchant vessels flying hostile flags even though American citizens may be on board, although President Wilson in a firm note, which has won the admiration of all neutrals, has protested, and declared that this Government will omit no word or act necessary for the protection of our citizens in such cases. To this note the German Government has at this writing made no reply.

This is the issue. President Wilson stands for the right of merchant vessels to be immune from destruction. Until now, for centuries, no civilized nation has claimed the right to sink unarmed merchant vessels flying a hostile flag. We went to war with the Barbary States in northern Africa a hundred years ago because their war vessels attacked our merchant ships. The safety of peaceful people in peaceful vessels on the sea has been won by centuries of struggle against ruthless force. The American people are as one man standing by the President in his demand that this safety shall not be lost in the present ferocious struggle. German-Americans are no exception to this rule, and Germans, more than any other immigrants, are rushing to become naturalized.

People Support the President

What were the rights of the Germans over the Lusitania? To take her into port as a prize or, if it was impossible to do this, to allow her passengers and crew to save themselves. Why did she not act thus according to the laws of nations? Because, she says, a submarine is not a vessel which can safely stop vessels, search them, or take them into port; and, furthermore, because Germany has no open ports. "Then," says President Wilson, "a submarine is not a proper tool to use on merchantmen," because they cannot operate against merchant ships without violating the law of nations. If Germany has not the weapons with which to carry on civilized war against commerce, we must stand out against her making savage war.

When Germany illegally interferes with our peaceful movements, we protest. When Great Britain or France does the same thing, we protest. If the offenses against us are such that we can protect our rights by a protest, we can still remain friends, with either Germany or one of the Allies. We desire to remain friends with all.

Our Right to Protest

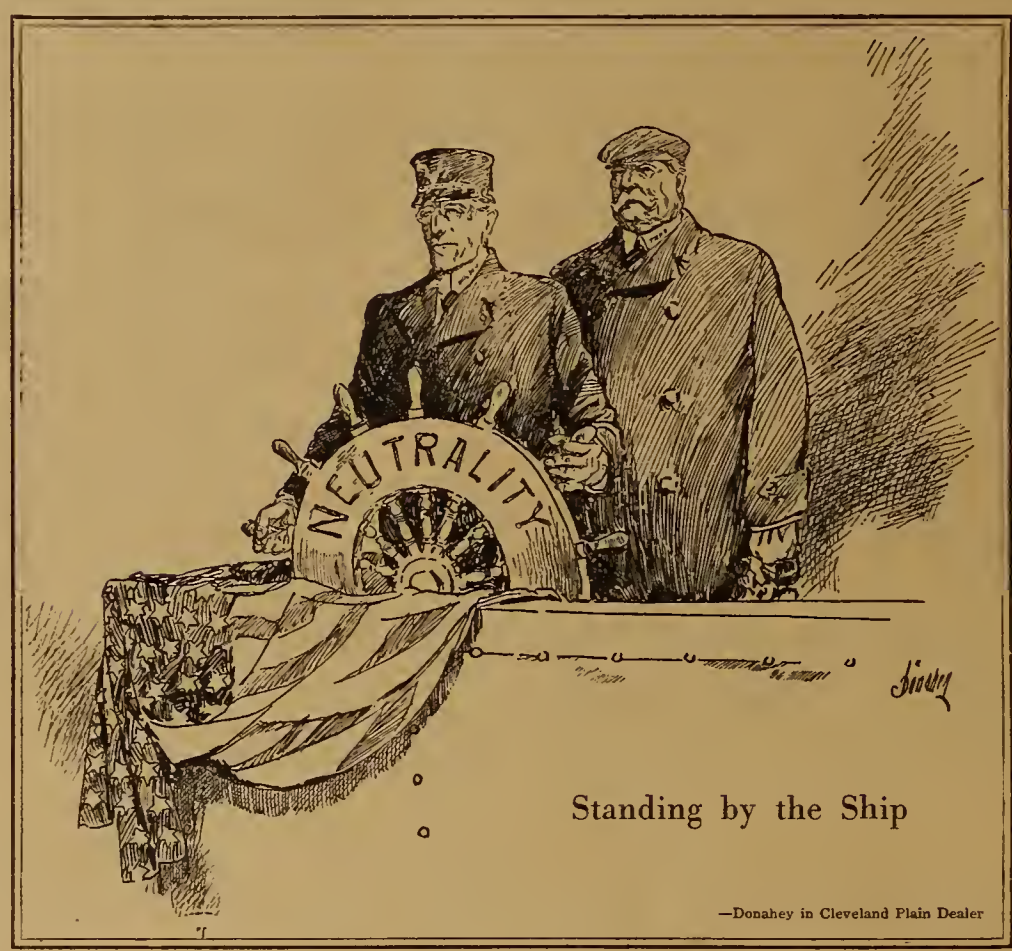
But when any nation, no matter how mighty on land or sea, drives a torpedo against the side of a peaceful vessel on which our citizens are rightfully traveling under any flag, we must stand for those violated laws of nations which have been won by centuries of civilization.

We cannot endure the killing of our men, women, and children in any such savage and ruthless way.

The argument made that our citizens were warned not to sail in the Lusitania is insulting. It adds premeditation to the murder. A man may do what he has a legal right to do whether he is warned against the act or not. Should Villa or Carranza send us warning that a railway car carrying our citizens would be blown up, the warning would not change the guilt of those committing the outrage.

Though a man be warned that if he pass along the highway to town he will be shot, he still may go, and go rightfully. The man warning him is still guilty notwithstanding the warning, if he carries the threat into execution. The innocent women and children on the Lusitania cannot be charged with negligence because of the notice of the intention to blow up the boat on which they had a perfect right to travel. No, nor the men either.

If the matter is settled before this reaches our readers, we shall all be glad; but if not, let us understand that what we stand for here is the immemorial right of unarmed people to sail the seas in unarmed vessels in peace or war. In other words, in this crisis the Stars and Stripes once more stand for Liberty and Civilization.



Standing by the Ship
—Donahey in Cleveland Plain Dealer

Going to the Circus

OF COURSE it is rather undignified for grown people to take a very deep interest in the circus. Long, long ago the possibilities of the human form for contortion, and of human muscles for hurling the human form about, were exhausted.

All the jokes are old.

As for the animals, we've seen them all. The explorers haven't opened up a new wild animal region since P. T. Barnum's time.

But they are not old to the children—none of these things. They still have a catch in the breath at sight of the big tent. To them there is still something wonderful, epic in that long finger which searches the crowd for peanuts on the tip of the elephant's trunk, in the hoarse grunting roar of the lions, in the red perspiration wiped from the blood-sweating rhinoceros—or is it the hippo?

And are you quite sure it wouldn't pay you personally to go to the circus? Have you ever tried it with your own children? These latter are a circus in themselves. To the fond parents who will make a day of it with the youngsters there's nothing like a good circus. The children are able to make the whole show new to the oldsters.

The man who gives the children as his excuse for going to the circus should not be laughed at. It's the best excuse in the world. Incidentally, there's a lot to be learned there. A stockman who can go through the horse tents and the animal show and not get paid for his trip must live a long, long way out.

Our Letter Box

Seems Skeptical

FARM AND FIRESIDE: The article "Is Sex an Accident?" published in the April 10th issue of FARM AND FIRESIDE, in which various plans for controlling sex in animals and fowls are discussed, leads me to say that in turkeys all the eggs are fertilized before laying begins. Last year I raised nine Bourbon Reds, eight of which were toms. My old washerwoman, black mammy Aunt Julia-Ann, says if you will carry the eggs to the setting nest in a bonnet the chicks will all be pullets; if carried in a hat they will all be roosters.

She got piping mad when I laughed at her and offered her a dollar an incubator to set my machines.

I wish FARM AND FIRESIDE readers would judge between your theory and Aunt Julia-Ann's way.

C. W. HUNT, North Carolina.

Number of Birds Decrease

DEAR EDITOR: I desire to answer the question asked by FARM AND FIRESIDE in regard to the scarcity of birds.

Here in southern Maine the birds of greatest value to farmers appear to be growing fewer in numbers every year.

Near my home is a beautiful grove of hardwood trees in which many birds have sang much.

These forest choirs are made up of the voices of thrushes, robins, bluebirds, jays, woodpeckers, cuckoos, whippoorwills, and the lesser notes of crickets, tree toads, and locusts.

From the marshy places in the near-by pasture comes the bullfrog's deep bassoon.

One of the worst bird destroyers in our locality is the duck hawk, which follows the birds in all their turnings as they try to escape their enemy on the wing.

N. M. WOODWORTH, Maine.

Looking at the Bright Side

EDITOR FARM AND FIRESIDE: Instead of life on a farm being just one thing after another, it is one joke after another if we can only see the joke. When my husband gets angry, although I manage to keep a straight face, I can't help laughing inside of me because he does look so funny. I am sure if persons only knew how comical they looked when they are angry they would control their tempers more.

When the only cow dies, for no other reason than that her heart stopped beating, I only say: "Well, I suppose the cow would have turned out to be a 'hookey' cow, and would have killed or injured one of us."

CLARA B. PARKS, Georgia.

W

Cross Was Good, But—

DEAR EDITOR: The editorial in FARM AND FIRESIDE on the inheritance of qualities and traits of dairy cows leads me to talk a little about the influence of breeding in some cows I have known and owned.

About twenty-five years ago my father had some very good little yellow Jerseys. Finally he became interested in Holsteins, and bought a pure-bred Holstein bull. He then proceeded to cross him on the Jerseys, hoping to secure the best qualities of both breeds.

When the heifers from this first cross freshened they averaged better as producers of milk than their mothers. Their color was much like the Holstein, but in shape they were decidedly Jersey. They were nervous in disposition like their mothers.

For years this cross-breeding was carried on, using nothing but pure-bred Holstein sires. Then my father secured a few pure-bred Holstein heifers. Since the farm was turned over to his sons, pure-bred Holsteins have gradually displaced the Holstein-Jersey cross-bred stock.

One noted Holstein sire purchased for a long price eight years ago has been used on the pure-bred and grade cows since that time with excellent results, as shown by the repeated tests made with his progeny.

Since getting into the pure-breds it has been brought home to us how much has been lost by the years of cross-breeding when we thought we could not afford a pure-bred herd.

The real loss has been in the lessened value of the stock for selling for breeding purposes. J. C. LAMPMAN, Ohio.

First Checker Winner

THIS is Mr. Romaine Schermerhorn, who has the distinction of being the first winner in FARM AND FIRESIDE'S checker tournament. He lives in Troy, New York, and played by mail with a man in Fall River, Massachusetts, nearly 200 miles away. The game required 33 moves (including the jumps) on both sides. The first move was made by the black men on February 24th, and the last move, by Mr. Schermerhorn, who had the white men, was made March 23d.

The winner says of himself: "My experience in playing checkers is not very lengthy. I have played with quite a number of players, picking the board up now and then to pass time, but always enjoying the game."

The loser writes: "I have been beaten by my opponent, but enjoyed playing checkers by mail very much."

The second game to be finished was between J. W. Cary of Indiana and D. T. Racey of Ohio, and ended in a draw. It began February 26th and concluded April 6th. These contestants are now at it again to play off the draw.

The third completed game was won April 11th by L. C. Robinson of Ohio from an Indiana opponent in 28 moves.

Following is the standing of the players arranged in the order in which the games have been finished. A win counts two points and a draw one point.

Name	*State*	*W.*	*L.*	*D.*	*Pts.*
R. Schermerhorn	N. Y.	1	0	0	2
J. W. Cary	Ind.	0	0	1	1
D. T. Racey	O.	0	0	1	1
L. C. Robinson	O.	1	0	0	2
H. C. Gerfen	Mo.	1	0	0	2
F. Hull	O.	0	0	1	1
W. H. Rice	Ky.	0	0	1	1
B. F. Hampson	Wash.	1	0	0	2
E. Shirtum	Mich.	1	0	0	2
F. W. Reed	O.	1	0	0	2
N. P. Morgan	O.	1	0	0	2

NOTE—Players losing all games have a standing of zero, and are not included.

What the Boys Want

By Monroe Conklin, Jr.

IF YOU want your boy to stay with you on the farm, then don't keep him there! Take him to the city. Don't let him grow up imagining that city life is a strange world of opportunity and splendor from which he has been barred. Don't be discouraged if he wants to go to the city to work. Find him a desirable job. Don't expect him to believe that the farm is the best place for him to live until he finds it out for himself. Our boys are not made that way. If it is a fact, as we believe, that the farm is the best place, then you can trust the boy to discover it finally.

But be sure that the boy takes with him to the city a complete, unprejudiced conception of what farm life may mean to him. When he is a mere child, let him go with you about the farm work. Make it pleasant for him. Happy associations with the farm at this time will stay with him through life.

Hire him as a child to help you do the farm work. It will make him industrious and also reveal to him that farm life is a paying occupation.

Ask for his advice until he is able to give it. This will make him self-reliant and prepare him to bear responsibility.

Let him have a calf to raise, or a field to plant to potatoes or pop corn. When he sells the finished product and puts the money in the bank to his own credit, he will have begun to be a real farmer.

Boys like motion. They want something going on. It matters not whether it is a circus or buzzing wood saw with a gasoline engine; whether it is a Fourth of July celebration or clearing up the stumpy lot with dynamite; whether it is going on the railroad to work or making maple syrup with a modern evaporator. Boys have lots of life, and what they need is the opportunity to exercise it. Provide this opportunity on the farm, and your boy will stay with you.

Tell the boy how you miss him when he is away. He likes to be appreciated, and he will return the compliment. Never lose your courage and let your boy feel that farm life tortures you. Be cheerful, sympathetic, broad-minded, and contented yourself, and you need not fear that your boy will stay in the city away from all the freedom and happiness and affluence which farm life gives to-day.

New Books

OUR NATIONAL DEFENSE, by George H. Maxwell, tells the world how we might have an army of 5,000,000 or more by enlisting a great National Construction Reserve, which would build works of internal improvement in time of peace and serve as soldiers in war, and also a Homecroft Reserve of men located on farms of an acre each, on which they would make a living in peace, and which would be carried on by their families in time of war. A plea for making the army useful. Published by Rural Settlements Association, New Orleans. Price, $1.25.

CALIFORNIA THE WONDERFUL is by Edwin Markham, the author of THE MAN WITH THE HOE and many other poems. He knows California as few men know it, and he has the command of language by which to make his readers see and know it. Those intending to visit the exposition this year may well spend the price of the book, $2.50, for such a preparation for their excursions through the State. It is profusely illustrated. Hearst's International Library Company, New York.

THE A B C OF GARDENING, by Eben E. Rexford, treats interestiugly of flower-growing for lawn decoration, potted plants, and window-box culture. 115 pages, 16mo. Harper & Bros., New York City. Price, 50 cents.

THE PRINCIPLES OF RURAL CREDIT, by James B. Morman, is probably the most comprehensive discussion of the subject of any published in book form in this country. Mr. Morman was secretary of the United States Commission on Rural Credits appointed by President Wilson. 300 pages. Macmillan Company, New York City. Price, $1.25.

ELECTRICITY ON THE FARM, by Frederick Irving Andersou, furnishes a lot of information in popular form ou developing and making use of electricity for farm-power and farm-lighting purposes. 165 pages. Macmillan Company, New York City. Price, $1.25.

GET POWER

The Supply Comes From Food.

If we get power from food, why not strive to get all the power we can. That is only possible by selecting food that exactly fits the requirements of the body.

"Not kuowing how to select the right food to fit my needs, I suffered grievously for a long time from stomach trouble," writes a lady from a little town in Missouri.

"It seemed as if I would never be able to find out the sort of food that was best for me. Hardly anything that I could eat would stay on my stomach. Every attempt gave me heart-burn and filled my stomach with gas. I got thinner and thinner until I literally became a living skeleton and in time was compelled to keep to my bed.

"A few months ago I was persuaded to try Grape-Nuts food, and it had such good effect from the very beginniug that I kept up its use. I was surprised at the ease with which I digested it. It proved to be just what I needed.

"All my unpleasant symptoms, the heart-burn, the inflated feeling which gave me so much pain, disappeared. My weight gradually increased from 98 to 116 lbs., my figure rounded out, my strength came back, and I am now able to do my housework and enjoy it. Grape-Nuts did it."

A ten days trial will show anyone some facts about food.

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

$5,450 Per Day Spent To Fortify Goodyear Tires

The other day we cited our experts to certain well-known tires. And we asked, What could Goodyear save by building tires like these?

$1,635,000 a Year

The answer was, "Based on current production, our saving would be $1,635,000 per year." That means $5,450 per day.

But that saving would probably cost our users a million dollars monthly. And the cost to Goodyear soon would be the rulership of Tiredom.

One Must Choose

Here's the choice that confronts us day after day: Shall we skimp Goodyear tires in ways that can't be seen, and increase our profit $1,635,000 a year? Or shall we pay that price to give our users a better tire than others?

Our answer is this:

Goodyear Fortified tires, for many years, have embodied five costly, exclusive features. These are five great protections found in no other tire.

We spend on experts $100,000 yearly to find new betterments to add.

In the past year alone we have added improvements which cost us exceeding $500,000 a year.

Those are the facts; believe them. We never exaggerate, never misrepresent.

Price Reductions

Now note another side.

Despite this ceaseless improvement, Goodyear prices are constantly coming down. Our last big reduction—on February 1st—made three in two years, totaling 45 per cent.

Yet not a feature is missing, not an item is skimped. And this year we are spending a half-million dollars on newly-adopted betterments.

That's one result of our mammoth output, our new equipment and our modern methods.

When we spend such sums to build tires better than rivals, don't you think it worth while to get Goodyears?

Most men do. Goodyear tires are selling now much faster than we can build them. Any dealer will supply you.

THE GOODYEAR TIRE & RUBBER COMPANY, Akron, Ohio

Makers of Goodyear "Tire Saver" Accessories; also Goodyear "Wing" Carriage Tires and other Types

GOODYEAR
AKRON, OHIO

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- Rim-Cuts—by our No-Rim-Cut feature.
- Blowouts—by our "On-Air" cure.
- Loose Treads—by many rubber rivets.
- Insecurity—by 126 braided piano wires.
- Punctures and Skidding—by our double-thick All-Weather tread.

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Write for this booklet. We'll also send full information of just how the Blizzard is built and tested; tells how the Blizzard works, how easily it is set up and taken down, and all about it. This book will help you buy *right*. Write for it today.
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EXTRAORDINARY OFFER—30 days one month's free trial on this finest of bicycles—the "Ranger." We will ship it to you on approval, *freight prepaid*, without a cent deposit in advance. This offer is *absolutely genuine*.
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TIRES, COASTER-BRAKE rear wheels, inner tubes, lamps, cyclometers, equipment and parts for all bicycles at half usual prices. A limited number of second hand bicycles taken in trade will be closed out at once, at $3 to $8 each.
RIDER AGENTS wanted in each town to ride and exhibit a sample 1915 model Ranger furnished by us.
It Costs You Nothing to learn what we offer you and how we can do it. You will be astonished and convinced. Do not buy a bicycle, tires or sundries until you get our catalog and new special offers. Write today.
MEAD CYCLE CO., Dept. B-83, CHICAGO, ILL.

Live Stock and Dairy

Successful Save Once

By Frank Norton

I SOLD my pigs this past winter at eleven mouths old. I kept them this long because I had only a few. I usually raise 100 pigs, but in 1913, 19 of my sows got cholera when they were about half done pigging. I lost 70 pigs and 16 sows, saving only three old ones and three young ones. Five of them raised 35 pigs out of 36, which weighed 340 pounds apiece.

This was a bad year for me. I have been quite successful before this. My method is this:

I use shorts and oil meal to make a slop, two gallons of oil meal and three of shorts to a barrel of water. I let it soak half a day and give the sows all they can drink.

Don't feed sows too much corn.

I shut each sow by herself to pig. After she is through I give her water only, the first day; then a little oil meal in the water for a week. Watch the pigs and increase the slop with about four ears of corn to a feed until the pigs are about two months old. Then wean them. Feed them only about half enough corn, but lots of fresh slop of white shorts and oil meal, with plenty of grass and range at all times of the year.

When I shut them up to fatten for about six weeks I feed all the corn they will eat up clean three times a day, with one part tankage to eight of corn. I also give them all the slop they can drink three times a day, and plenty of salt, ashes, and slaked lime.

Keep plenty of oil on hogs at all times.

Grist Mills

HAS the day of the small country gristmill passed?

A considerable number of stock raisers or stock feeders find it good business policy to grind, crack, and chop their grain and feed with a home-grinding outfit, using their gas engines for power. But in every thriving farming community there are scores of farmers who are either buying ground mill feed, cracked and chopped grain shipped in from distant milling centers, or are hauling their grain to be ground in large mills half a dozen or more miles away.

The question here arises, is there not still a chance for a lot of comparatively small inexpensive custom-grinding mills that can be housed in buildings that are now vacant or can be easily transformed into something suitable for the purpose?

With the modern grinding mills of low cost the miller needs no great skill to do the grinding, chopping, and cracking of grain for stock and poultry feeding. There is also a chance for working up a profitable trade in grinding Graham flour, cornmeal, and buckwheat flour for table use.

Will it not be of advantage to many neighborhoods to encourage someone to undertake this work of running a custom gristmill? In some places the co-operative creameries, the grange store, or farmers' club is already doing this work acceptably. If there were more gristmills conveniently at hand, more poultrymen and stockmen would raise rather than buy their own grain for feeding.

Why Keep Pedigrees?

IF a pure-bred Guernsey cow should be caught up in a cyclone and landed safely on your farm without any way of tracing the owner or identifying the animal, you would have to consider such a cow a scrub cow. Her ancestry would be doubtful, and for that reason she would be of doubtful blood. You could neither get her registered nor would a buyer of Guernsey cattle be likely to take her except at the price of an ordinary good cow.

In a recent letter Mr. Wm. H. Caldwell, secretary of the American Guernsey Cattle Club, says: "Our rules require that the animals shall trace in unbroken line to the animals imported from the Island of Guernsey."

Keeping a breeding record of all farm live stock is a good policy even if the animals are only grades. Pedigrees always help in making sales.

Salt Butter in the Churn

By Lucia Bosley

IF YOU use a barrel churn, sprinkle the salt in on the butter after you have drawn off the buttermilk and washed the butter. Then turn the churn as you do to gather the butter. You will find that you have worked in the salt more evenly than you can by the old method, and this way is easier and quicker.

Filling the Haymow

MUCH time and labor can be saved if a power hoist is used in putting the hay into the mow. The single-drum hoist does this work satisfactorily when the hay only has to be elevated and carried back into the mow. The power hoist is one of several hay-harvesting machines described on page 3.

The hoist is operated from the load by ropes. A good way to handle hay with a power hoist is with a sling at the bottom of the load, and a hay fork for the top of the load. One forkful is taken off the front of the load, and one off the back of the load. Then the rest of the load is elevated on a sling. This method does not strain the tackle, and the load of hay is all taken off the rack.

One farmer used a power hoist in taking the dirt out of a pit silo, and weeks later hoisted the silage with the same equipment. He has rigged up a silage carrier. The silage is hoisted to an overhead track on which it runs directly into the barn.

One man and a power hoist can do much work

When the Foal Comes

SHORTLY after the foal has arrived give the mare a drink of lukewarm water.

Disinfect the stall in which the foal is expected to arrive, with a five-per-cent solution of carbolic acid.

A light covering of air-slaked lime on the floor under the bedding may save the foal from navel trouble.

Soon after the foal has made its arrival, the stall and floor should be again disinfected with the carbolic-acid solution.

The colt's navel should be disinfected as soon as possible with a five-per-cent solution of lysol or some other good disinfectant. Grease the belly about the navel with vaseline or fresh lard, previous to applying the disinfectant, to protect against blistering.

Alfalfa-Made Pigs

By C. H. Oathout

IN THE spring of 1914, John Smith of Champaign County, Illinois, had 52 head of Duroc Jersey runts. They had been farrowed in the fall of 1913, and Mr. Smith had no good way to care for them during the winter. In the spring it looked as if he were in for taking a loss on these shotes.

He had 2.7 acres of alfalfa, however, and about May 1st turned his runts into this. Along with the alfalfa he fed a little corn, and nothing else, except that he had a pile of limestone convenient for the pigs to run to. He sold the pigs August 12th, weighing 252 pounds each.

During the time that the hogs were running on the alfalfa he made two cuttings and got four tons of hay.

As soon as he took off the fall shotes to put them on the market he turned 50 head of spring pigs onto this same 2.7 acres of alfalfa. These, too, were fed a little corn. They ran in the alfalfa until corn-husking, when they were turned into a field of corn for "hogging down." These pigs were sold just before the holidays, weighing 250 pounds each.

Finding the Job

[CONTINUED FROM PAGE 4]

dependent upon proper behavior and the rendering of service satisfactory to the employer.

9. Loyalty to the interests of the farm and to the proprietor is a necessary condition to satisfactory service.

10. Laborers will be remunerated in accordance with their worth to the farm, which is based upon experience, efficiency, and length of service.

11. Men are wanted who are not expecting to remain permanently in the farm-labor class, but who expect to save their wages, become tenant farmers, and some day own the farms they operate. Stimulus will be given to saving, and every opportunity will be given to learn the business of farming with a view to making each man in the employ of the farm a capable, self-directing farmer.

"We do not confine our activities to furnishing farm hands," said Mr. Powderly, "but are often able to find men who are available as tenants. One of the men sent out in the early years of these experiments went as a tenant to an Iowa farm. Recently he wrote us as follows: 'I have been successful, and have saved my money. I have saved enough so that I have bought me a farm of my own. And now if you can send me another good Bohemian like me, I can put him in the place where you put me'."

A great many women are sent out as domestics, and there is a great demand among proprietors of large estates for gardeners, especially for gardeners whose wives or daughters can take situations in the house.

"What do you do," said I, "in cases in which both the farmer and the man seeking a job are willing, in which the man seems to be fitted for the work, but where he has no money for railway fare?"

"You have hit upon our chief difficulty," said Mr. Powderly. "In many cases there is no way out, and the man never reaches the job. I wish we could find some way out of that. Most men are honest, and it seems as if there should be some way provided for transporting the workless man to the job. Many farmers are willing to pay a reasonable amount of railway fare to a man who looks all right. In such cases we take the farmer's money, buy the man a ticket, and send him on his way. If he has baggage enough to equal the fare in value, the thing is easier. We check the baggage and mail the check to the new employer."

Would I apply to Mr. Powderly's service if I needed hands? I think I should, after talking it over with him. He seems to be working the matter out on practical lines. Not all the men sent out would be good, but not all of them are good when we select them ourselves.

How to get the hands? Go to the nearest postoffice and ask for the necessary blanks to be filled out, or apply to the rural carrier for them. The post-office will carry the inquiry to the proper place in the zone in which you are located. It is best to send in beforehand so as to give the inspectors some time in which to find the proper man or men. Blanks may also be had by writing to the Division of Information, Department of Labor, Washington, D. C. No fees of any sort are charged, as the service, to both employer and employee, is absolutely free.

It is a service which ought to succeed, and which, I believe, will succeed. I don't think it is on its feet yet, but its work will be better in 1916 than in 1915.

W

Live Stock and Dairy

My Manure Shed

By Ellsworth Brown

SIX per cent interest is received annually on $900 I spent for a two-story manure shed, dimensions 26x37 feet, erected on my farm in Mercer County, Pennsylvania, in the summer of 1914. The building serves during the summer as a tool shed and a place for the pigs to exercise. The second story is used to store hay, straw, and corn fodder.

The manure shed is attached to the barn. This lessens the expense in handling the manure. The lower story of the building is 10 feet high. The manure-carrier track extends overhead both in the cow stable and the horse stable. The cow manure and the horse manure are mixed easily. This prevents the manure from fire-fagging.

When the weather is such that the manure can be hauled onto the field when fresh, the manure spreader is placed beneath the carrier track. The manure then is dumped from the carrier into the spreader. When the weather is inclement the manure is stored in piles in the manure shed.

The manure shed is painted. It has windows in both stories. Doors 12 feet wide are placed near one end on opposite sides. These doors will admit three horses abreast. The horses can be driven easily in one door and out the other one. This makes it pleasant to load manure in the spreader on a cold day. The doors can be closed to prevent the horses from getting cold while the manure is being loaded into the spreader.

A cement floor is not needed in a manure shed. Little fertility soaks into the ground because there is not any excess of moisture in the manure.

Young Pigs Should Grow

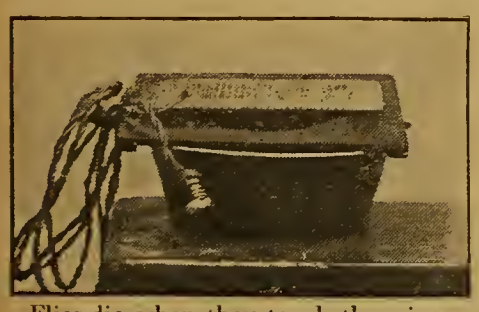
THE pig which does not grow but merely gets fat is likely to die of "thumps." Corn makes fat. The small grains are richer in the things that make the bone and muscle needed if the pig is to grow. Two parts of shorts to one of corn is a growth ration rather than a fat ration. Skim milk furnishes a good material for growth if fed with a little corn. When the shotes reach the weight of about 75 pounds, the feed may be made of one part of tankage to ten parts of corn, or one of the small grains. Small grains should be ground or crushed. Alfalfa, either in the green state or as hay, is one of the best of feeds for the young pig. It feeds the bones and muscles, but should have corn to render it complete. These ideas have been found correct by the Nebraska Station. Those who have not the alfalfa may grow rape as a growth crop. It is equal to alfalfa in materials for bone and muscle.

Kill Flies Quickly

By William Semmler

A QUICK method of killing flies and other insects is to exterminate them with electricity. Anyone who has electric power on his place can make one of these effective fly destroyers.

To make the contrivance one selects a fair-sized dish or pan which is covered



Flies die when they touch the wires, and fall into the pan below

by a non-conducting substance, preferably of wood having an elliptical hole cut across the center. Lengthwise of this hole a coil of wire wound on a core of wood is placed. This insulating core is made preferably three-cornered or pyramid-shaped, the apex uppermost so the fly or insect which is shocked when it comes in contact with the wire-wound core drops off into the pan below. The core is wired closely, and just as soon as a fly touches the wire a connection is made and the insect is electrocuted.

The wires of the core are extended by cord to any electric-light socket. No current is used until a connection is made by the insect touching the wires.

In order to attract the fly or insect to the fly killer the dish underneath is partly filled with glycerin mixed with denatured alcohol, which gives off a sweet odor.

W

Any insect not killed at once by touching the charged wires is drowned when it lands in the dish.

Our Angora Rugs

By Mrs. L. E. Armour

DURING late summer and early fall we killed some of our half-breed Angora goats. Their hides made lovely rugs. This is how I prepare them:

Immediately after the hide is taken from the animal it is carefully stretched and tacked to a board surface to dry. When it is dry I soak it in water until soft, then stretch, flesh side up, on a wide box and scrape all the flesh from it. Next rub with whites of eggs, then with powdered alum and saltpeter. Stretch and then tack up again for twenty-four hours.

I suppose any suitable hide could be prepared for a rug in the same way.

Causing Cheese to See

By C. L. Ravens

PUTTING "eyes" into "blind" Swiss cheese is one of the late achievements of the dairy-products experts of the United States Department of Agriculture. Hitherto the bane of the American maker of Swiss cheese has been the occasional blind cheese—the cheese lacking the big holes, or eyes, that characterize the genuine Emmental cheese from Switzerland. Eyes have been a sort of a hit-and-miss proposition with the American manufacturer. Now the government experts of the Dairy Division of the Department are in a position to insure eyes, without, however, being able to go so far as to control their number or size.

Briefly, the process is to macerate a small piece of good Swiss cheese and incubate it in whey at room temperature for twenty-four hours, after which the culture is added to the milk before it is set with rennet. This system will give practical insurance against blind cheese, but it won't insure eyes of the precise Emmental type. Sometimes there are too many; sometimes they are too big. The elimination of blind cheese, however, is a long step ahead in the manufacture of domestic Swiss.

The department experts are experimenting now with a view to finding out how to control eyes as to number and size.

A PAPER milk bottle weighs less than one sixteenth as much as a glass one of the same capacity.

MORE than two thirds of the value of corn is on the ear, and one third in the stalk and blades. The silo will save the third which is usually as good as wasted. Why save only two thirds of the crop?

A WISCONSIN cheese factory is putting some of its product on the market in tin cans. This method is endorsed by government officials. There is no loss of weight by evaporation, neither is there any rind.

Short Course Pays

Query: Do you think it would pay me to take the eight-weeks course in agriculture at the Ohio State University? I own a small farm (30 acres) and expect to buy more land soon. Some people say to take more agricultural papers instead of taking the short course. I take several farm papers, and among them FARM AND FIRESIDE, which we would not do without if it cost four times the price. H. W. ELLIS, Ohio.

Answer: By all means take the short course in agriculture at the state university. In States where such courses are given, farmers are almost unanimous in saying that the course pays. Nothing can quite take the place of actual contact with good expert teachers. The man who has spent some time at an agricultural college is able to get more out of the agricultural papers than he otherwise could.

When this reader has taken the short course he will discover that he will feel inclined to take more agricultural papers rather than fewer.

Frozen Alfalfa

Query: I have read in some farm paper that alfalfa after it is frosted or frozen becomes poisonous. Is this true?

MRS. A. KELLOGG, Pennsylvania.

Answer: It is not exactly correct. The alfalfa does not become poisonous, but is made indigestible by freezing, and causes it sometimes to produce colic or other digestive disturbances.

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"I had an attack of pneumonia, which left me with dyspepsia, or neuralgia of the stomach. My 'cup of cheer' had always been coffee or tea, but I became convinced, after a time, that they aggravated my stomach trouble. I happened to mention the matter to my grocer one day and he suggested that I give Postum a trial.

"Next day it came and we liked it so much that we will never change back; for I am a well man today and have used no medicine.

"My work as chief bookkeeper in our Co's branch house here is of a very confining nature. During my coffee drinking days I was subject to nervousness and the 'blues' in addition to my sick spells. These have left me since I began using Postum and I can conscientiously recommend it to those whose work confines them to long hours of severe mental exertion."

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Garden and Orchard

Making Money at School

By H. H. Shepard

THESE two girls of Cook County, Illinois, belong to a school garden club. During last summer they made $132.65 growing parsley, onions, radishes, and asters. Their products were sold on the near-by city market. Their parents allowed them to keep and use the money they realized.

These girls are 12 and 14, respectively. Besides making $132.65 each, they each won a $50 silver cup for doing the best garden work in their school garden club.

Both girls worked together and marketed their crops in common during the summer, dividing the money equally, hence each at the end of the season had the same amount of cash. Each has started a bank account, to which she proposes to add this summer through growing and selling more garden crops.

These girls won cash prizes and silver cups for gardening

In the same club to which these girls belong there are 30 girls and boys, ranging in ages from 10 to 14 years.

The smallest crop any member grew and sold for cash last summer amounted to $6.90, while the largest amounted to $165.31, the latter being made by a 12-year-old boy growing onions as a single crop.

One girl member of the club, 12 years old, made $133.90 growing onions as a single crop. The 30 members of the school garden club grew and marketed vegetables and flowers to the amount of $1,376.25.

The boys and girls belonging to this garden club live in a gardening district near a city where vegetables and flowers are in demand. Only a few of them grew flowers for sale. The vegetables they grew and sold consisted of radishes, onions, parsley, beans, carrots, lettuce, tomatoes, beets, sweet corn, peppers, cucumbers, cabbage, and celery. Nearly all of these boys and girls have started bank accounts of their own. They have their own check books, make and sign their own checks, and use the money for themselves as grown-up men and women.

They are taught in their school how to grow and market garden crops as well as how to make and use money wisely. Their education is practical. They are learning how to do things worth while, and learning the value of dollars.

Spray Your Potatoes

WHEN the plants are six inches high, spray with Bordeaux mixture. See that every part of the plant, leaves, upper and under sides of the leaves, and stems are reached with the spray to protect them from blights and rust.

This spraying is very important, as it reaches the heart of the cluster of stems and leaves—which is hardest to reach as the plant grows.

Just as important is spraying to kill insect enemies. Use one-half pound of pure Paris green in 50 gallons of the Bordeaux mixture. Spray with the poison just as the eggs of the Colorado beetle first show signs of hatching. Make one or two more applications of the poison three to five days apart, as required.

Spray with Bordeaux at least four times. Spray every ten days or two weeks until the potato tops get large enough to meet in the rows, or until they are as large as they ever will be. If you can't get in four sprayings ten days or two weeks apart while the plants are making this growth, spray oftener.

That is, do this if you are planting potatoes for profit. Careful tests in New Jersey show a profit of $40 an acre of potatoes by spraying, and similar results have been arrived at elsewhere. People who make a business of growing them for the market would never think of omitting the spraying. They know their business.

Canker Worms Coming

THE inch worm, canker worm, or measuring worm is well known, but many of us forget the damage it does to both fruit and foliage. Several of the state stations have issued warnings against them for this season.

They eat both fruit and leaves, and injure both shade trees and fruit trees.

The mother of the worm is a moth, but she has no wings. Therefore she is obliged to crawl up the trees to deposit her eggs.

This makes it possible to trap her by placing a barrier of cotton and tree tanglefoot about the foot of the tree. Starting to climb, she gets stuck and her project of laying her 400 eggs on that tree is balked.

The handiest way to get the tanglefoot is to buy it, but for those who desire to make it, the following recipe from a Nebraska bulletin will be found useful:

Resin, 5 pounds; castor oil, 3 pints; take enough of a mixture of printer's ink and black Virginia oil or other heavy oil to make it of the right stickiness.

ALL except four of Germany's 337 beet-sugar factories are in operation. France has 203, and 100 are running.

Onions Sets a Specialty

By J. L. Graff

THE principal use for the farm building shown in the picture is to dry and store onion sets. It is plastered inside, has a concrete floor, and can be heated in cold weather, for it is in Illinois.

The man who planned, built, and owns it has a farm of 150 acres. Forty acres he sets in onions. During the first two months of this year he sold and shipped 40,000 bushels of sets, the shipments going to most of the Middle Western States.

One of the most interesting things about him is that as a tenant farmer he lived twenty years on the same farm.

The man who uses this large building for drying and storing onions sets was for twenty years a tenant farmer on the same farm

Salt in the Garden

By G. Thomas

SALT has been claimed to be a good thing for top-dressing the asparagus plantation. If applied freely it may check or destroy weed growth without injuring the asparagus, but all authorities now seem to agree that it has no particular stimulating effect on the asparagus plants and does not increase the yield.

Salt is in no sense a fertilizer. There may be conditions under which it helps to make plant foods in the soil more available, but the chances for such effect are slight. Even if salt does not cost much, we might as well save even that little expense and the trouble of applying it.

A MISSISSIPPI man has propagated a new citrus fruit by crossing the orange and the grapefruit. It is called the orangelo.

ORDINARY arsenate-of-lead spray—five pounds of the paste to fifty gallons of water—will kill rosebugs on any shrub, vine, or bush infested by them, if a gallon of molasses be added to the spray. They like their poison sweetened.

Privet Raised From Slips

Query: Can you tell me the best method of propagating California privet? I wish to plant a hedge but cannot afford market prices for the rooted plants. I have been told that there is a way of raising the plants from slips. MRS. M. D., Ohio.

Answer: California privet plants can be raised from seed and the seedlings divided, very much like currants or gooseberries. It is, however, a slow operation, as it is necessary to transplant the seedlings, and it is about three years before they will be in condition for planting for hedge purposes. A more satisfactory plan is to purchase them from nurserymen if they can be procured at a fair price. They are usually sold at very reasonable rates by the thousand.

Mail-Order Sales

By John R. Colter

A FARMER in New York State who had just started the direct-selling game received an order from a Buffalo man for a box of Keiffer pears. He wrapped them neatly and sent them on. In a few days there came a great yell to the ears of the express company's industrial agent who had recommended the pears to the Buffalo man.

"These things that I got from that farmer down-state are simply awful," he wrote. "We put them on our breakfast table and nobody could eat them. They aren't big and juicy like the ones we buy from the street peddlers."

The trouble was, of course, that the city man did not know what he was ordering when he chose Keiffer pears. He imagined that he was going to get big Bartletts.

But did the farmer take advantage of this ignorance and insist that he was well within his rights in keeping the money for the pears? Not he; he was too broad-gauged and far-sighted. He wanted that man for a future customer. So he sat right down and wrote:

DEAR MR. B——: I am very sorry that the pears were not just what you wanted. The Keiffer pear is usually considered an excellent stewing and preserving pear, but not very much, I grant you, in the eating line, especially for table use. I supposed that you wanted them for preserving.

Shall I ship you a bushel of good Bartletts? I want you to feel that my produce is dependable stuff.

Enclosed is 60-cent money order. You are at liberty to ask a refund any time you want if goods from my farm do not entirely satisfy you.

That was handling a customer with diplomacy and sound, businesslike methods. It was the long-sighted way, and it paid this particular farmer with double compound interest, for the Buffalo man saw that he could rely upon that farmer although he had never laid eyes on him. Before a month passed, regular weekly consignments of poultry and eggs were being laid down at the Buffalo man's city house. Word of mouth advertising—the very finest kind that can be had—built up a humming mail-order trade for the producer who had the foresight to forego 60 cents on a trifling deal.

W

How to Raise Corn

Methods of Culture Told by Successful Farmers in North Carolina, Iowa, Indiana, Nebraska, Michigan and Ohio

Moisture in the Cornfield

By Irven Glardon

THE conservation of moisture is the important part in successful corn culture in Indiana in the general run of seasons. Preventing the soil from forming a crust is an aid in the conservation of moisture.

During the early stages of the growth of the corn plant, the field should be plowed deep and often enough to keep the small roots near the surface of the soil from growing. This will cause other roots to grow deep in the soil to find moisture.

If a one-horse drag is used, three or four cultivations are enough even during a dry season. The use of the drag, after other cultivation has been completed, will prevent the formation of a crust on the soil.

Many Indiana cornfields didn't receive a rain last year from the time of the first cultivation until the corn plant had tasseled. Under such conditions the use of the one-horse drag was much more satisfactory than the use of the cultivator. If the drag is used enough the dew will make the soil nearly as wet as a shower of rain. The drag can be used until the corn is ripe if necessary.

Plow Deep the First Time

By Edgar L. Warner

PLOWING deep and close to the corn plants the first and second cultivations, plowing a little farther away from the plants and shallower the third cultivation because the white corn roots will begin to spread, and cultivating thoroughly but shallow between the rows the fourth time over the field, proves to be a successful plan of corn-growing in Indiana during a normal season.

In a dry season it is a good method to plow and roll down the field the first two cultivations, drag down the "middles" after the third plowing, and use a one-horse harrow after the fourth cultivation.

Many farmers of my acquaintance cultivate backward. They plow out the middles at the first cultivation, scratch the soil the second plowing and work closer to the corn, and plow deeply the third cultivation. Several of my friends throw up a ridge two feet high in the corn rows, with the idea that the rain will run under the ridges, and stay there until the corn roots use the moisture.

The soil will hold moisture much better, and it will be easier to get over the field at husking time if the ground is left level after the cultivations. If this plan is followed, the rain will soak down more evenly, the soil will not wash so badly, and the field will not be so uneven to break for the next crop.

Because cultivator shovels are set in a slanting position, and when working in the ground lie nearly flat, often farmers think they are plowing six inches deep when they are plowing only three or four inches deep.

Early Plowing Kills Weeds

By Walter C. Klein

CORN is cultivated early in the method of culture used for years by many of the farmers near Harper, Iowa. The corn is plowed close and deep the first cultivation. The second plowing isn't so close to the corn plants, but the cultivation is deep. Weeds don't cause much trouble if the first and second cultivations are done properly.

A third plowing completes the cultivation. The ground isn't ridged much. The depth of the cultivation is shallow, and the shovels are kept about eight inches from the outside stalks in the rows.

Plowing the corn more than three times isn't necessary unless the season is dry. Then it is necessary to cultivate the corn oftener. Shallow cultivation will form a dust mulch that will help hold the moisture.

Cultivate Corn Shallow

By James A. Redmond

SHALLOW cultivation—about two inches—is the proper method of corn culture in many parts of Michigan. Shallow corn-plowing keeps the soil well pulverized, and kills nearly all of the weeds. One of the best corn crops I ever raised was hoed by hand.

The reason I do not plow deep all season is because such a practice cuts the small corn roots that spread between the rows just beneath the surface of the ground. Without these roots the corn dies. I have seen entire corn crops ruined by deep plowing.

The time to stop plowing corn is when all of the weeds have been destroyed. I have cultivated corn five times with an ordinary five-shovel cultivator. This plan has produced some of my best corn crops.

Plowing Corn After a Rain

By Alfred Flegg

CORN does well if it is cultivated after a rain in Nebraska. The number of times a field of corn is plowed depends on the time available, and if the plowing will do the field and crop some good. Methods of corn cultivation differ in many parts of the United States, due to the variations in climate and soil.

Because many farmers raise a lot of wheat and have to get the cultivation out of the way for the wheat harvest, corn is plowed generally three or four times with a large-shovel cultivator.

The first plowing is done early. This gets rid of nearly all of the weeds. As much dirt as the corn will stand is thrown toward the plants the first cultivation.

The corn is plowed as deep as possible the second time. The ground is thus loosened to a good depth. The corn roots have not spread enough to be injured by the deep cultivation.

The third plowing is made two and one-half to three inches deep. The corn roots at this stage of the corn's growth are across the rows. Deep plowing tears up the roots, and during dry weather the corn will wilt from want of moisture. The last cultivation is given the field to make a dust mulch, which prevents the evaporation of much moisture.

A one-horse cultivator is used many times after the corn is too high to use a two-horse cultivator. A one-horse, five-shovel cultivator can be bought for $4 or $5.

Plow Deep Before Planting

By Alexander Bost

A FIELD used for corn should be plowed deep in the fall. The ground will be pulverized thoroughly by spring when the corn is planted. This plan brought profitable results near Salisbury, North Carolina.

Many farmers turn under a crop of crimson clover in the fall. The field is harrowed, disked, and harrowed again about the last of April. Then the corn is planted in a shallow furrow. When the corn is up, the field is harrowed with a sharp-toothed smoothing harrow until the plants are large enough to plow with a cultivator.

The corn is cultivated two inches deep the first plowing. The other cultivations are one inch deep. The plowing is continued until the ears are developed fully, even when the corn suffers from dry weather.

One acre which was plowed very shallow every three or four days during a severe dry season produced as much corn as eight acres in an adjoining field that was not cultivated during the unfavorable corn-growing weather.

The corn roots are cut off by deep cultivation, the corn turns yellow, and small stalks with small, undersized ears are the fruits of one's labors.

Prepare Good Seed Bed

By W. H. Snode

PLOWING to a depth of six inches, early in the spring, a good sod which was well manured during the winter, rolling a few days later, killing the weeds when germinated, pulverizing the soil with a disk harrow, and then harrowing with a smoothing harrow are the operations made in the preparation of the seed bed for corn by successful farmers in Mahoning County, Ohio.

The seed is planted in check rows 44 inches each way on or about May 10th, and not later than May 28th.

When the corn is up high enough to cultivate I plow, once each way of the rows, about two inches deep. The soil is kept mellow by frequent cultivations during the growing season.

A 14-tooth spike-tooth cultivator is used when the corn has reached the silking stage. Shallow plowing with this tool keeps the cornfield free from weeds. And the corn will stand a severe dry season. Many farmers cultivate their cornfields six and seven times if the season is dry.

Deep cultivation when corn is two or three feet high cuts the corn roots. Such practice will damage the crop much.

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Change failure to success. Make ***sure*** of a "catch", a good stand and a big yield. Save money, seed, time and labor. Grow the ***wonder crop*** — the ***best feed,*** the ***biggest money-maker;*** at the same time, ***enrich your soil.***

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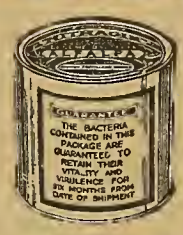

In half-acre, 1-acre and 5-acre cans

Remember, legumes without nitrogen-gathering germs take ***no*** nitrogen from the air.

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ARMOUR FERTILIZER WORKS, Dept. 147

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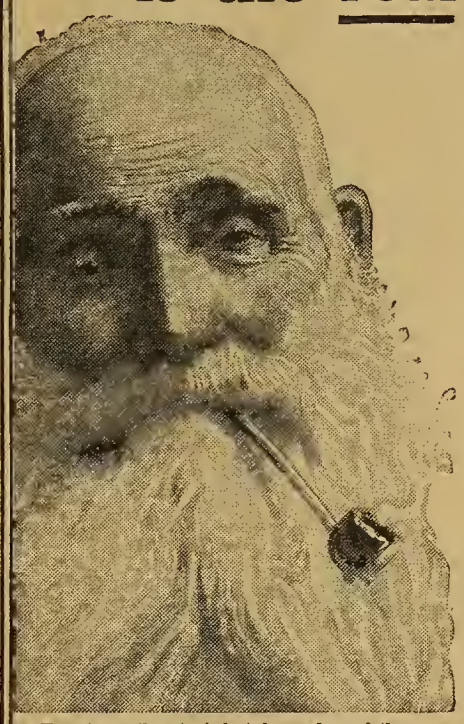

Here is another just-elected member of the Prince Albert "old-time jimmy-pipers club." This is John O'Reilly, of East Providence, R. I., who has just passed the century mark. Mr. O'Reilly is one of those grand old men who has come to this ripe age with the joys of his friendly jimmy pipe fresh in his mind each morning. He has always been a liberal smoker.

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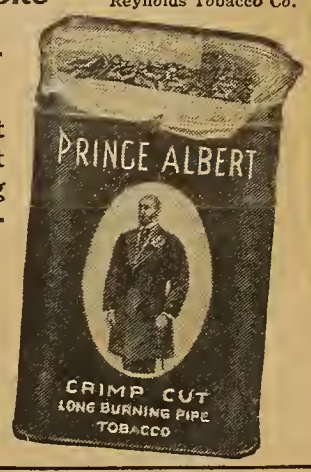

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R. J. REYNOLDS TOBACCO CO., Winston-Salem, N. C.

The Brown Mouse

The Romance of a Farm Hand Who Upset a School District

By HERBERT QUICK

Part Sixteen

"THEY'RE coming! They're coming!" This was the cry borne to the people in and about the schoolhouse by that Hans Hansen who would be called Hans Nilsen. Hans had been to the top of the little hill and had a look toward town. Like a crew manning the rigging, or a crowd having its picture taken, the assemblage crystallized into forms determined by the chances of getting a glimpse of the bungalow across the ravine—on posts, fences, trees, and hillocks. Still, nobody went across the bridge, and when McGeehee Simms and Johnny Bonner strayed to the bridge head, Mrs. Simms called them back by a minatory "Buddy, what did I *tell* you? You come hyah!"

A motor car came over the hillock, ran down the road to the driveway to the school manse, and drew up at the door. Out of it stepped Mrs. Woodruff and the Colonel, their daughter, the county superintendent of schools, and Mr. Jim Irwin. Jennie was dressed in a very well-tailored traveling costume, and Jim in a moderately well-tailored business suit. Mrs. Irwin kissed her son and Jennie, and led the way into the house. Jennie and Jim followed, and when they went in, the crowd over across the ravine burst forth into a tremendous cheer, followed by a three-times-three and a tiger. The unexpectant passer-by would have been rather surprised at this, but we who are acquainted with the parties must all begin to have our suspicions. The fact that when they reached the threshold Jim picked Jenuie up in his arms and carried her in will enable any good detective to put one and one together and make a pair—which comes pretty near telling the whole story.

By this time it was nearly seven, and Calista Simms came across the charmed bridge as a dispatch bearer, saying that if Mr. Jim and Miss Jennie didn't mind, dinner would be suhved right soon. It was cooked about right, and the folks was gettin' right hongry—an' such a crowd! There were fifteen in the babies' room, and for a while they thought the youngest Hamm young one had swallowed a marble. She would tell 'em they would be right over; good-by."

There was another cheer as the three elderly and the two young people emerged from the school manse and took their way over the bridge to the school side of the velvet-bottomed moat, but it did not terminate in three and a tiger. It was, in fact, shut off like the ring of a bell dipped in water by the sudden rush of the shouters into the big assembly room, now filled with tables for the banquet—aud here the domestic economy classes, with their mothers, sisters, female cousins, and aunts, met them as waiters, hat snatchers, hostesses, floor managers, and cooks, scoring the greatest triumph of history in the Woodruff District. For everything went off like clockwork, especially the victuals—and such victuals!

There was quantity in meats, breads, vegetables—and there was also savor. There was plenty, and there was style. Ask Mrs. Haakon Peterson, who yearned for culture, and had been afraid her children wouldn't get it if Yim Irwin taught them nothing but farming.

She will tell you that the dinner—which so many thought of all the time as supper—was yust as well served as if it had been in the Chamberlain Hotel in Des Moines, where she had stayed when she went with Haakon to the state conweution.

Why shouldn't it have been even better served? It was planned, cooked, served, and caten by people of intelligence and brains, in their own house, as a community affair, and in a community where, if anyone should ask you, you are authorized to state that there's as much wealth to the acre as in any strictly farming spot between the two oceans, and where you are perfectly safe—financially—in dropping from a balloon in the dark of the moon and paying a hundred and fifty dollars or more an acre for auy farm you happen to land on.

Why shouldn't things have been well done when everyone worked, not for money, but for the love of the doing, and for the love of learning to do in the best way?

Some of these things came out in the speeches following the repast—and some others. It was probably not quite fair for B. B. Hamm to incorporate in his wishes for the welfare and prosperity and so forth of Jim and Jennie that stale one about the troubles of life, but he wanted to see Jennie blush—which as a matter of fact she did, but she failed to grow quite so fiery red as did Jim.

But B. B. was, as he has always been, a good fellow, and a Trojan in his work for the cause, and the schoolmaster and superintendent of schools forgave him. A remark may be a little broad and still clean, and B. B. made a clean speech, mainly devoted to the increased value of that farm he at one memorable time was going to sell before Jim's fool notions could be carried out.

Colonel Woodruff made the most of the time which was allotted to him for talking. He had been a reformer late in life, he said, but he would leave it to them if he hadn't worked at the trade steadily after enlistment. He had become a follower of Jim Irwin because Jim's reform was like draggiug the road in front of your own farm—it was reform right at home, and not at the county seat, or Des Moines, or Washington. He had followed Jim Irwin as he had followed Lincoln, and Grant, and Blaine, and McKiuley, and William B. Allison, and John H. Gear, because Jim Irwin stood for more upward growth for the average American citizeu than the Colonel could see any prospect of getting from any other choice. And he was proud to live in a country like this, saved and promoted by the great men he had followed, and in a neighborhood served and promoted, if not quite saved, by Jim Irwin. And he was not so sure about its not being saved. Every man and nation had to be saved anew every so often, and the Colonel believed that Jim Irwin's new kind of rural school is just as necessary to the salvation of this country as Lincoln's new kind of recognition of human rights was half a century ago.

"I am about ready to close my speech," said the Colonel, "and the small service I have been able to give to this nation. I went through the war, neighbors, and am proud of it; but I've done more good in the peaceful service of the past three years than I did iu four of fighting and campaigning. That's the way I feel about what we've done in Consolidated District Number One."

Vociferous applause!

"Oh, Colonel," the voice of Angie Talcott rose from away back near the kitchen, "can Jeunie keep on bein' county superintendent, now she's married?"

A great guffaw of laughter reduced poor Angie to tears, and Jennie had to go over and comfort her. It was all right for her to ask that, and they ought not to laugh at Angie, so there uow! Now you're all right, and let's talk about the new schoolhouse, and so forth. Jenuie brought the smiles back to Angie's face just in time to hear Jim tell the people amid loud cheers that he had been asked to go into the rural-school extension work in two States, and had been offered a fine salary in either place, but that he wasn't even considering these offers. And about that time the children began to get sleepy and cross and naughty, and the women set in motion the agencies which moved the crowd homeward.

They had only begun to get really happy

BEFORE a bright wood fire—which they really didn't need, but how else was Jim's mother to show off the little fireplace?—sat Jim and Jennie. They had been together for a week now—this being their home-coming—and had only begun to get really happy.

"Isn't it fine to have the fireplace?" said Jennie.

"We can't really afford it—in Iowa," said Jim. "Fuel's too scarce. If we use it much the fagots and deadwood on our 'glebe laud' won't last long."

"If you should take that Oklahoma position," said Jennie, "we could afford to have open wood fires all the time."

"It's warmer in Oklahoma," said Jim, "and wood's more plentiful. Yes"—contemplatively—"we could, dear!"

"It would be nice, wouldn't it?" said Jennie.

"All right," said Jim briskly, "get me my writing materials and we'll accept. It's still open."

Jennie sat looking into the fire, oblivious of the suggestion. She was smiling. Jim moved uneasily and rose.

"Well," said he, "I believe I can better guess where Mother would put those writing materials than you could, after all. I'll hunt them up."

As he passed, Jennie took him by the haud and pulled him down on the arm of her chair.

"Jim," said she, "don't be mean to me! You know you wouldn't do such a wicked, wicked thing as to leave these people here now!"

"All right," said Jim, "whatever you say is the law."

When Jenuie spoke agaiu, things had taken place which caused her voice to emanate from Jim's shirt front.

"Did you hear," said she, "what Angie Talcott asked?"

"M-h-m," said Jim.

"Well," said Jennie, "now that I'm married can I go on being county superintendent?"

There was a long silence.

"Would you like to?" asked Jim.

"Kind of," said Jennie, "if I knew euough about things to do anything worth while; but I'm afraid I shall always rise to my full height and not quite be able to see over anything."

"You've done more for the schools of the county," said Jim, "in the last year than any other county superintendent has ever done."

"And we shall need the money so like the dickens," said Jennie.

"Oh, not so badly," said Jim, "except for the first year. I'll have this little farm paying as much as some quarter sections when we get squared about. Why, we can make a living on this school farm, Jennie, or I'm not fit to be the head of the school!"

There was another silence, during which Jennie took down her hair and wound it around Jim's neck.

"It will settle itself soon one of these days anyhow," said he at last. "There's enough for both of us to do right here."

"But they won't pay me," she protested.

"They don't pay the ministers' wives," said Jim, "and yet the ministers with the right sort of wives are always the best paid. I guess you'll be in the bill, Jennie."

Jim walked to the open window and looked out over the still landscape. The untidy grounds appealed to him—there were lessons in their improvement for the children and the people. It was all good. Down in the little meadow grew the dreaming trees, their round crowns rising as from a sea not quite to the level of the bungalow, their thrifty leaves glistening in the moonlight. Across the pretty bridge lay the silent little campus with its twentieth-century temple facing its chief priest. It was all good, without and within. He went across the hall to bid his mother good night. She clung to him convulsively, and they had their own five minutes which arranged matters for these two silent natures on the new basis forever.

Jennie was robed in white and standing before the mantel when he returned, smiling at the inscription thereon.

"Why didn't you put it in Latin?" she inquired. "It would have had so much more distinction."

"I wanted it to have meaning instead," said Jim. "And besides, nobody who was at hand was quite sure how to turn the Latin phrase. Are you?"

Jennie leaned forward with her elbows on her knees and studied it.

"I believe I could," said she, "without any pony. But after all, I like it better as it is. I like everything, Jim—everything!"

"*Let us cease thinking so much,*" said the inscription—and it will go on saying it to future generations—"*of agricultural education, and devote ourselves to educational agriculture. So will the nation be made strong.*" [THE END]

W

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Sunday Reading

Belgium

HEARTSTRUCK she stands—Our Lady of all Sorrows—
Circled with ruin, sunk in deep amaze;
Facing the shadow of her dark to-morrows,
Mourning the glory of her yesterdays.

Yet is she queen, by every royal token.
There, where the storm of desolation swirled;
Crowned only with the thorn—despoiled and broken—
Her kingdom is the heart of all the world.

She made her breast a shield, her sword a splendor,
She rose like flame upon the darkened ways;
So through the anguish of her proud surrender
Breaks the clear vision of undying praise.

MARION COUTHOUY SMITH,
in "The Nation."

Infinite Spaces of God

By Eva J. De Marsh

NOT long since I picked up a paper containing an article on "The American Farm Boy." The sentence which appealed to me most strongly was: "You are where you can think and study out things for yourself in the silence and sweetness of God's outdoors."

God's outdoors! Only they who have been denied this privilege can fully appreciate all that it means. Freedom to think; freedom to live and breathe and move; freedom to be the man or woman God meant you to be.

Life in the city is full of interest. One can learn and enjoy much there, yet the opportunity to go deep into the heart of things is limited. Things are too much on the surface. Always the mad struggle continues either to hold one's own or to climb higher.

Surely God made men and women for something better and more useful than these efforts.

The sweetest poems, the most beautiful stories, the noblest and most enduring achievements of men, were either conceived or perfected in solitude. Men do meet God face to face in city churches, and they do render valiant service in His cause there, yet for the deepest and truest soul-awakening and soul-winning there is no place such as one finds out in the infinite spaces of God, beneath the green trees, under the wide blue sky, the starry canopy of heaven. Open-air meetings are invariably full of spiritual fervor.

Consecrated effort may lie in the whirl of things, amid the sin and dirt and degradation of the slums, where disease and death lurk, where men struggle for bread, and where they ride roughshod over their fellows, and where God is forgotten save in the blasphemies; but the preparation for such work lies afar off, in the green fields and pleasant woods, in the silences where men walk hand in hand with God.

Somehow life in the country seems freer of temptation. Pure, clean air makes pure, clean blood; and with pure clean blood and clear brain evil has little to do.

Among green fields thought flows freer, sympathy is keener, and there springs up a wider tolerance and a more wholesome judgment of men and things.

Meeting our fellows in the marts of trade sharpens our wits; converse with others deepens and broadens our lives; the hustle and bustle and whirl of things makes us active in thought and deed; but when great discoveries are to be made, when great crises are to be met, when mind and heart and soul are to give of their best, the preparation must be made alone.

The heights by great men reached and kept
Were not attained by sudden flight,
But they, while their companions slept,
Were toiling upward in the night.

Those of the hurrying cities almost forget that above them is a starry canopy, flying clouds, rushing wind. Beauty and fragrance slip past like phantoms. Always in a hurry to do something or get somewhere, what can they do but skim the surface? The mad rush catches and whirls them onward with no more than half their powers utilized.

After all, the world got along very nicely before we came, and it will go on long after the last task has dropped from our nerveless fingers. Why not, then, find the true proportion of things, study out our problems and the world's needs, and drop non-essentials? Why not check our insane notion that what *we* are and what *we* do are all important?

A Man Who Loved Money

Some time since one of our magazines contained the story of a man to whom stocks and bonds and their manipulation meant so much that for the sake of business he ruined an old friend and drove him to suicide. One day, however, business called him to a little Western town. A foolish delay caused him to lose his train, and his good angel sent him out onto the prairie on a pony that threw him and ran away. The story then goes on to tell how he came to himself and a sense of his true relation to the universe, and an opportune farmhouse furnished the telephone which saved the situation. Previous theories were shattered, and "Business is business" ceased, for the time being, to be his motto.

All that many of us need is the opportunity to think and get our bearings. Accustomed to being regarded as of paramount importance in our own narrow circle, we forget that in God's eyes our greatest achievements may be but as "the little deeds of little men."

We forget that in God's eyes we are not alone to be favored. We are not to be favored at the expense of others.

It is in God's out-of-doors that we see the true relationships of life.

"There is a largeness in God's mercy." In the great out-of-doors among his infinite spaces we understand better our relation to other men and the meaning of our lives.

The Farmer's Prayer

By A. A. Clark

O FATHER, I thank Thee that my forebears were tillers of the soil. Thou knowest that I have gone down to the sea in ships; I have followed the shifting crowds that cluster around the night fires of a great city; I have listened to the words of them that have authority; but nowhere have I found a place where my heart could be at ease, save in the orchard paths and meadows of my fathers.

O Father, I look not to men desiring to wrest from them the means wherewith to live; I look up to Thee, who holdest the rains and the sunshine in the hollow of Thy hand; in Thee do I trust, for Thou hast promised that the seedtime brings the harvest.

O Father, give to the idle and the hungry, eyes to see that the face of the land smiles where the plowshare passes;

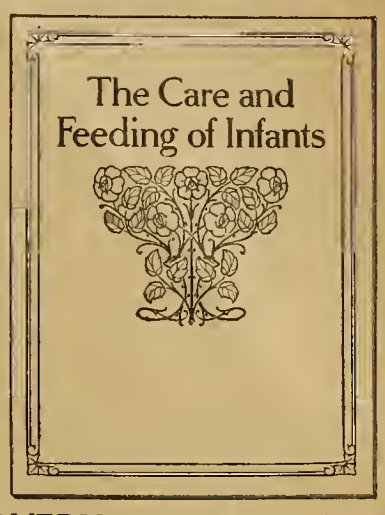
Grant that I may not be discouraged by the petty dealings of those who traffic in the things I labor to produce.

Let there be willing hands to gather the riches of autumn; hands that delight in the touch of the golden grain; eyes that glory in the beauty of ripe fruits; ears that love the slow tread of faithful beasts.

O Father, the promise of the green earth fills me with peace. Let it be my privilege to refresh the weary passer with a glimpse of growing things tended by one who loves the land.

Even so shall I add to Thy glory and my own eternal salvation. Amen.

Free to Mothers



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W

Some "Best" Recipes

Dishes That Will Help Make the Summer Meals Pleasant

By ELIZABETH L. GILBERT and Others

A Raspberry Tart which is a novelty. Have good pastry baked in a pie-tin, set it on a serving-plate, fill with ripe berries cut in half, and sprinkle with sugar; then cover with either thick plain cream or whipped cream. This may be made either in one large shell of pastry or individual patties.

Blackberry Mush is an old standby, usually liked by everybody. Stew the berries with a little water; when they are very soft sweeten, and thicken with flour and water. This should not be quite thick enough to mold, and is eaten with cream, when it is cold.

Huckleberry Brown Betty—Mix two cupfuls of soft bread crumbs with half a cupful of melted butter. Butter a baking-dish, and put in alternate layers of huckleberries and crumbs, sprinkling the berries with sugar and a little salt. Bake covered for twenty minutes, then uncover, and brown the top layer of crumbs. Serve hot with cream.

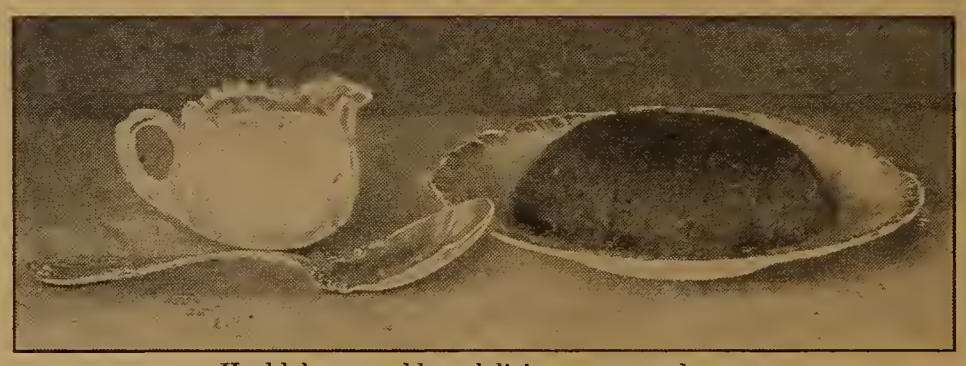
Huckleberry Mold—Fill a mold with small cubes of bread at least twenty-four hours old. Cook huckleberries until quite soft, press through a sieve, and baste the juice over the bread, being careful that it is all saturated. Cover with a plate, and put a weight on it, and let it stand in a cool place overnight. In the morning it will turn out solid, and should be eaten with a cold boiled custard.

A Fine Cherry Pudding may be made in this way: mix a cupful of stale cake-crumbs, a well-beaten egg, three tablespoonfuls of sugar, one tablespoonful of melted butter, half a cupful of milk and enough flour to make a stiff batter, adding a teaspoonful of baking-powder with the flour. Put a thick layer of seeded cherries in the bottom of an earthenware baking-dish, sprinkle generously with brown sugar, and pour over this the batter. Place in a moderate oven and bake for half an hour; serve with a hard sauce which has been flavored with almond extract.

Baked Tomatoes—Slice the stem ends from six perfect tomatoes, scoop out the seeds, sprinkle the inside with salt, and turn upside down to drain. Scald the tomato pulp, strain out the seeds, and add to the juice that has drained. Melt a tablespoonful of butter, add a tablespoonful of flour, cook till frothy, add the tomato juice, and stir till it thickens. Take off the fire, stir in a cupful of corn pulp, one beaten egg, one-half teaspoonful of salt and a little pepper. Butter a baking-dish, set the tomato shells in it, fill with the corn mixture, cover with buttered crumbs, and bake half an hour in a moderate oven, taking care not to scorch. When desired stuffed with rice mix the tomato pulp with cold boiled rice, season well, add melted butter, and bake as before.

Green-Corn Pancakes—Slit the top of the kernels on the cob, then scrape the milk of the corn off the cob; this keeps out the hulls. Mix with a little sour milk, with soda enough to sweeten. Stir in flour enough to make it the right consistency, salt to taste, fry, and serve with bacon. L. E. L., Connecticut.

Corn Salad—Chop twelve ears of sweet corn, one large head of cabbage, three medium-sized onions and one red pepper. Add one-half cupful of mustard, one-half cupful of salt, two and one-half cupfuls of sugar and two and one-half cupfuls of vinegar. Boil ten minutes, and seal while hot in glass jars. B. C., Kentucky.



Huckleberry mold—a delicious summer dessert

Raspberry tarts in individual patties

Grilled Nuts—Hazelnuts, filberts, or almonds may be used for this toothsome confection. Blanch the nut meats by pouring boiling water over them and letting them stand for a short time, when the skins may easily be rubbed off. Roast the nuts in the oven until a delicate brown. Boil one cupful of granulated sugar with one-half cupful of water until the mixture will spin a thread. Take from the fire, add as many nuts as syrup will cover, and stir until white and sugary.

Grape-Juice—To each two gallons of grapes add three quarts of water; cover and let boil until the grapes break. Strain and add one pound of sugar to each three quarts of juice. Let come to a boil, skim, and seal in glass bottles or jars.

Summer Ices

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Grape Juice Sherbet

Soak ½ envelope Knox Sparkling Gelatine in ½ cup cold water 5 minutes. Make a syrup by boiling 1 cup sugar and 1½ cups boiling water ten minutes, and add soaked gelatine. Cool slightly and add 1 pint grape juice, 4 tablespoonfuls lemon juice, ⅓ cup orange juice; then freeze. Serve in glasses and garnish with candied violets or fruit, if desired.

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Free Yourself From Worry

How One Woman Meets All Her Troubles With a Smile

By MARY K. ALDRICH

MY NARROWEST escape from death was not from any material thing, but from the national menace—worry.

I worried about the weather, my own affairs, the affairs of others—in fact, about every conceivable thing. I was so forlorn-looking that my husband was only too glad to get out of my sight, and then I worried because he did not love me. Now I know that no man in his right mind can either love or respect a chronic worrier, no matter how loyal he is, or how hard he tries.

I worried about my children when they were in the best of health, for fear they might die; and I would sit and rock them, crying softly, while I planned their funerals and where I should have them buried. In my dismal fancy I suffered ten thousand tortures that I might or might not be called upon to meet, and I am writing this in the hope that some dear sister may see whither she is bound and pull up before it is too late.

I worried because the neighbors did not come to see me, and I know now that it was because I always had a tale of woe to tell when they did come.

I worried myself sick, and then worried because I was sick, imagining all sorts of slights, and thinking I was only in the way.

Our good old family doctor diagnosed the case as neuritis, a nervous disease, but after several months' treatment concluded that a little surgical work on the mind would be more effective than medicine.

One night I worried until I could not sleep, then worried because I did not, and the next morning was an exceptionally gloomy one, outdoors and in.

The doctor came in to find tears of self-pity rolling down my cheeks and preventing audible speech. To his cheery "Good morning!" a flood of tears and an inarticulate sound was the only answer. Looking at me sharply, he drew up a chair and sat down beside the bed and said, "Say, do you want to live, or don't you?"

"I don't know," was the discouraged answer he got.

"Well," he exploded, "if you don't, there's no use of my coming any more; but if you do, you have got to stop this worrying." A strong adjective preceded the word worrying. "You have as good a husband as falls to the lot of most women, if you could see anything but his faults. You have two lovely children, and you are bringing them up in an atmosphere that will drive them away from you—God knows where or into what—as soon as they are big enough to get away. You could get well if you tried, or took any interest in anything but your own aches and ills; but if you keep this up you will leave two motherless children, besides driving everyone else distracted."

With the conclusion of this outburst he jammed his hat on his head and bolted for the door, saying, "I don't suppose you will ever want me again, but if you do I shall do all I can for you if you will help yourself as much as it lies in your power to do."

To say that I was mad is putting it mildly indeed. I was raging. In fact, I don't believe there are adjectives enough in use to-day to express just how angry I was; but when I could think clearly the justice of his words was plain to be seen. I saw myself as others saw me, and the sight was far from a pleasing one.

These words are burned into my memory in letters of fire, and that long day's battle with self and selfishness will never be forgotten.

But, thank God, I won, and to-day am well in mind, although my poor body is not as strong as I could wish.

The next morning I called the doctor back, thanking him, and asked his help. Many a cheery story he has told me, many a word picture he has given me, of people so much worse off than I was that my lot looked like sunshine compared to their shadow.

To-day I meet the petty troubles with a smile, though I will admit it is sometimes rather forced; or else turn them into a joke. The hired girl says I am the nearest to a continual joke she ever saw.

My husband, I think, loves me as well as most men love their wives, although he does not make a practice of going around shouting about it.

The good doctor's words saved my life, and I leave it to you if this is not just as narrow an escape as an escape from death by any living or moving thing. More so, in fact, for it clouded more lives than mine.

If any chronic worrier should read this, I should say that the upward curve to the lips is hard to attain, but is gloriously worth while when attained. I know because I have tried it.

No use to worry about the inevitable, as it cannot be helped, and no use to worry about what can be helped. Just get busy and help it. Count your blessings, and your worries will take to the woods.

W

Simple Summer Clothes

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No. 2794

No. 2794

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24 to 34 waist. Material for 24-inch waist, four yards of thirty-inch material, or three yards of forty-inch material. Width of skirt at bottom in 24-inch waist, two and one-half yards. Hip in 24-inch waist, thirty-eight inches. Pattern, ten cents

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34 to 44 bust. Material for 36-inch bust, one and three-fourths yards of thirty-inch material, or one and five-eighths yards of forty-inch material, with three-fourths yard of contrasting material. The trimming on this waist may be linen, the material of the dress in a contrasting color, or embroidery, whichever is preferred. The price of this pattern is ten cents

No. 2799—Three-Gored Skirt with Panel Trimming

24 to 34 waist. Material for 24-inch waist, three and three-fourths yards of thirty-inch material, or two and one-half yards of forty-inch material, with one and one-fourth yards of contrasting material. Width of skirt at bottom in 24-inch waist, two and one-fourth yards. Hip in 24-inch waist, thirty-eight inches. The price of this pattern is ten cents

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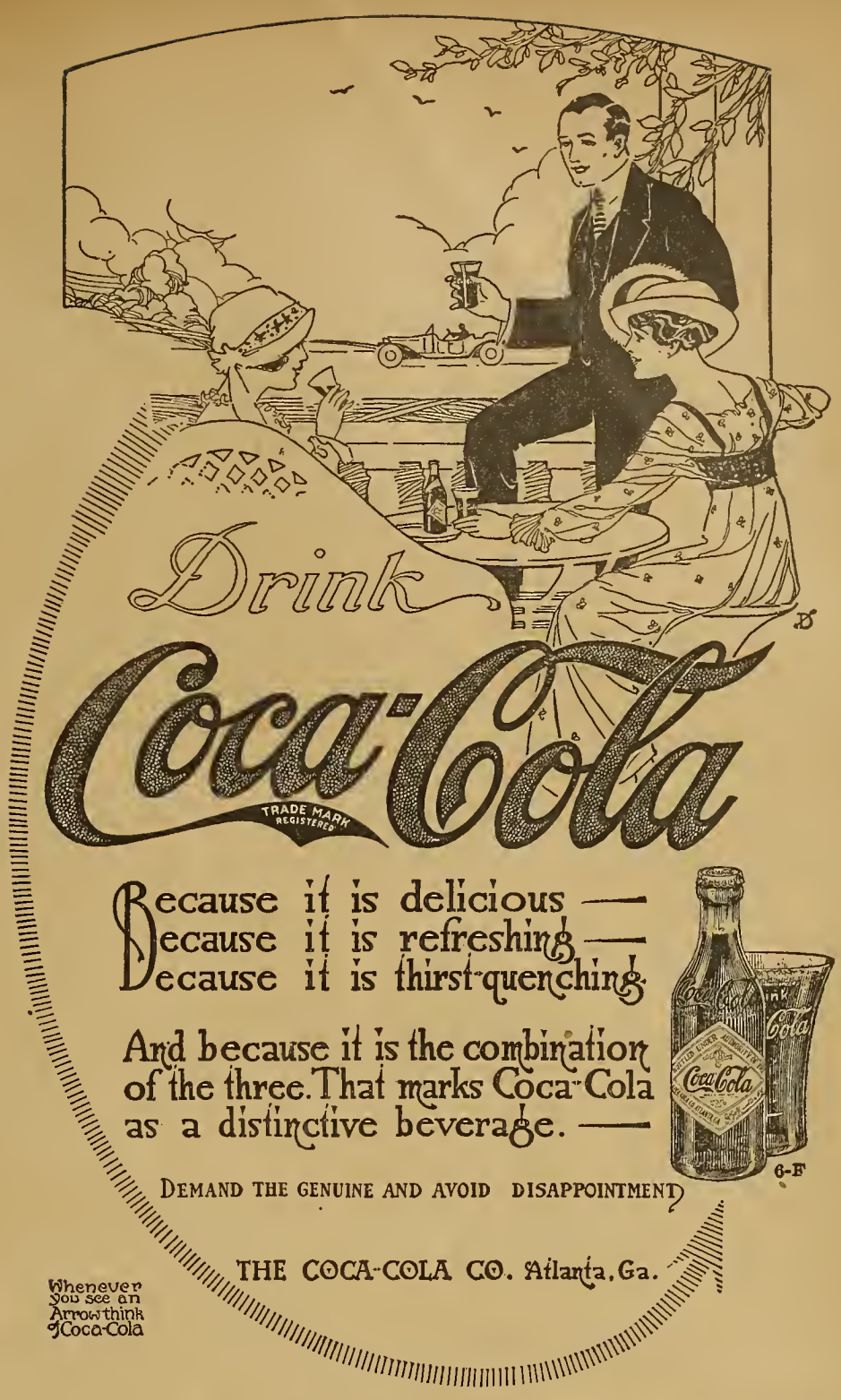

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Your Baby's Health

Timely Suggestions for the Care of Children

By DR. S. JOSEPHINE BAKER

ON THE front of a pamphlet on baby care, recently published, appears the sentence: "It is not the babies born but the babies saved that count." True, every word of it; but I should like to go even farther, and say: "It is not enough to keep a baby alive; it must be kept well." Our "Save the Babies" campaigns do not serve their full purpose when they stop short at merely maintaining life: their real object must be the well baby, and nothing less than a normal, vigorous, healthy baby should satisfy either the parents, the doctors, or the communities who are putting forth such efforts for the conservation of babyhood.

"Keep the Babies Well" has a far deeper meaning than life-saving; it is the foundation stone for physical well-being throughout all life, and means future well-balanced, well-rounded, normal, and vigorous manhood and womanhood.

Notwithstanding the splendid results that have been achieved in reducing infant mortality, one baby out of every eight born in the United States dies during its first year, and one baby out of every two born in the United States is sick during its first year. This second fact is just as important as the first, for good health in babyhood is the basis of normal health in childhood, and upon both depends good health in adult life.

The very helplessness of a baby should be the strongest appeal it can make. Children are plastic material to work with and to work for, and the mental and physical impressions that are received in early life make a more definite imprint upon character and health than ever after. It is this fact that makes our contact with them so inspiring as well as of such vital importance.

Fathers and mothers should guard carefully their relation toward the new life entrusted to their care. It is not enough that the mere physical needs of the baby are provided for; happiness, cheerfulness, and contentment have a positive influence in developing the same traits in the rapidly expanding inner nature of the child.

The atmosphere and environment of the home must be wholesome as well as hygienic, mentally clean as well as physically sanitary, if the baby is to become truly healthy. Parents have it within their power to bestow upon their baby a heritage of mental, moral, and physical health that after years may modify but can never wholly eradicate.

The precious newness of a baby is a sensation that every mother knows; the mystery of birth, the tangible evidence that a new life has come into being, the physical reality of the miniature reproduction of humanity, the knowledge that the miracle of motherhood has come and found expression in a new life—all this every mother knows and the memory lasts as long as life itself. But does the mother realize the real newness of baby life? It is like an untilled field, filled with virgin soil ready for the plow, the planter, and the seeds that are to ripen into the full harvest; even more, for the clean, unmarred surface of the new baby's mind and soul and body have the vital forces of humanity, ready to respond to any impression, however delicate or light the touch, and they possess wonderful possibilities of intelligent expression in later years of the mental or physical influences received from the time life begins. This very newness means quickened response. The world begins at once to write its lesson upon the fresh, untouched mind. The impressions are subconscious but none the less real: little by little comes the conscious response and the insistent demand to be satisfied.

It is well to remember that the baby's earliest impressions should always be of the most gentle and simple nature. Undue excitement or an attempt to stimulate the delicate mental mechanism of a baby can only result in harm. Later, when the power of voicing demands has acquired expression, the ever-repeated "Why?" of this newly-awakened sense can tax the wisdom and ingenuity of a master mind in its demand for information.

When the baby first begins to talk, its perfectly natural desire is to ask questions. When we go to a new country or among new people we have the same wish to gratify our curiosity about our unusual surroundings. The child's insistent demand for information is even more legitimate than that of the grown person, and its simple faith in the truth of the answers it receives should be met with equal honesty. A little child's questions are never really foolish, though they often sound so. The every-day facts of existence we are apt to accept without question: they are so much a part of every-day life that they hardly interest us or warrant more than a passing thought. For the baby they are very new and very strange experiences, and demand explanation. So the ever-repeated "Why?" should be answered simply, with a reason, and truthfully, whenever an answer seems possible. When no answer can be given, a simple "I do not know" is the only honest course, and an untruthful or evasive answer is unfair to the baby mind.

It is for the mothers and fathers to determine what kind of impressions the active little brain shall receive, and upon their decision will rest very largely the healthy or unhealthy mentality of the boy or girl who will be the man or woman. The wholesome and healthful character growth has even more wonderful possibilities, for the response to right and wrong comes long before the average mother realizes. Useless and unmeaning "Yeses" and "Noes" are an abomination. "Don't" should be expurgated from the language of childhood, and expression of the mental or physical activities of the baby or child nature should be guided, directed, and encouraged—not repressed.

It is with the physical health of the baby that the mother may see her way even more clearly, for here we have the most easily molded and most responsive material that nature can give us. This responsiveness is equally great to the good or bad, and habits of good health or ill health are acquired with equal readiness. There is no other period of life when the habit of good health can be more easily formed, and no other period when illness is so easily contracted and meets with so little bodily resistance as during infancy and early childhood.

Babies should be naturally like healthy little animals; if they are not it is because of wrong living on the part of their parents, resulting in inherited low vitality; or wrong environment due to ignorance or neglect of right health methods. The well baby needs simple guidance to see that he keeps well; the sick baby needs, and usually gets, attention in the effort to make him well; but the merely delicate baby, with enfeebled powers of resistance to disease and of constant low vitality, needs both guidance and the best attention that medical science affords.

The basis of all modern medicine is prevention of disease. To keep the baby well is far easier, safer, and surer than to cure him after he has once become ill. It takes very little to cause illness in the baby, and the result is often seemingly out of all proportion to the cause. The same digestive disturbance that in an adult would cause at the most a passing discomfort will result in acute illness in the baby, often with the most disastrous effect, and the infection which passes the adult by finds a quick victim in the baby.

To understand this, one must know something of the nature of disease.

The way to avoid disease is not only by attempting to kill the germs, but by making and keeping the body so strong and well that it will resist all attempts of the bacteria to gain a favorable place for growth. The real lesson of this applies to babyhood, because then may be laid the foundation of strong bodily health and disease-resisting qualities.

W